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THE
DENTAL DIGEST

Vol. XXVI FEBRUARY, 1920 No. 2

A SIMPLIFIED TECHNIC FOR SECURING IMPRESSIONS IN MODELING COMPOUND

By W. S. Heermans, D.D.S., New York, N. Y.

The purpose of this paper is to present a shorter and simpler method of taking closed mouth impressions with modeling compound. It is based on the technic described in the book "Professional Denture Service," to which reference will be made. While no new principles are advanced, I believe that the shortening of the method avoids many of the chances of error possible to a longer method. There is a further advantage in that much of the work may be done in the laboratory or by the assistant. It makes it possible to shorten sittings or to accomplish more at one sitting.

After the examination of the tissue conditions of the mouth, select a tray which approximately fits the jaw of which the impression is to be taken. Soften modeling compound in water at a temperature of 150°F. Place the compound in the tray and take a "snap impression." Such an impression for an upper jaw should include the palate and the buccal and labial sides of the ridge, and should extend as far back as the denture is to go. Such an impression for the lower jaw should include the entire length of the ridge.

As soon as the compound of the impression is cold, pour casts, using a quick setting plaster.

In a recent test case, the upper and lower trays were selected, the upper and lower snap impressions taken, and the casts poured in six minutes.

While the casts are hardening, mark the occlusal plane on the side of the face and make the marks over the heads of the condyles, following the technic on pages 51 and 129 of "Professional Denture Service."

By the time these marks are made, the models will be hard enough to permit removal of the impression compound. It should be removed by dipping the compound, but not the casts, into water at 120°F. for about 15 minutes or until it is slightly softened.

The next step is to form trays which will closely fit the ridges. A tray is, in the writer's opinion, merely something to carry and support

the compound. It should fit the mouth as accurately as possible so as to permit using a minimum quantity of impression material. Outline with a pencil, on each cast, the form of the tray. On the upper, the buccal margins, in the molar region, should be well up on the buccal sides of the ridge. From the second bicuspid on one side around the labial surface to the second bicuspid; on the other side there should be no labial wall, but the margin of the tray should follow the crest of the ridge (Fig. 1A). On the lower cast, the margins of the tray should be above the points of muscle attachment. The lower tray should extend backward as in Fig. 1B.

A Fig. 1 B

Shape over each cast (shape lower tray by the technic described on pages 55 and 56 of "Professional Denture Service") an impression tray, and trim the margins to the marks made on the casts. The shaping of the tray and trimming of the margins will require about ten minutes.

Coat the casts well with powdered soapstone or other similar substance. Soften a cake of compound in water at a temperature of about 150°F. and conform it to the upper cast as in Fig. 2. Chill the compound to stony hardness in ice water, remove it from the model and trim away the surplus until the thickness of the buccal and labial margins is a little over one-eighth inch. Replace the compound on the cast and with a bunsen flame or mouth blowpipe soften the surface then uppermost, as the cast lies on the bench. When the compound is thoroughly softened place the tray, which has been previously formed to fit the cast, upon it and imbed it into the compound. Remove the tray and compound from the cast and press the buccal flanges inward toward the centre of the impression form about one-sixteenth inch, then add a ball of compound

Fig. 2

about three-quarter inch in diameter in the centre of the impression form and mould this to form a pyramid on the palatal surface of the impression form. The object of this procedure is to cause the impression material to touch the sides of the ridge and the centre of the vault first. This procedure produces what I call "The Impression Form."

Form a bite rim, either by the technic shown in "Professional Denture Service," or by means of the bite rim former, devised for this special purpose (Fig. 3). Such a former may be made by any dentist out of plaster, though the metal former is more convenient. To use it, merely sepa-

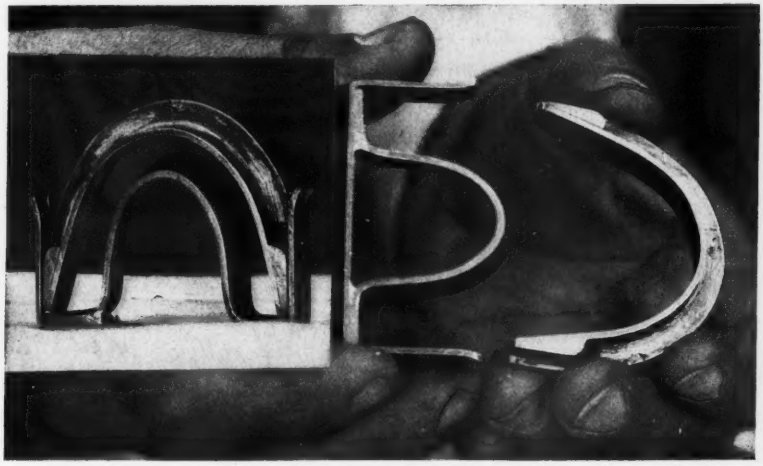


Fig. 3

rate the halves of the bite rim former, place a roll of soft compound between the parts, press the parts together and trim away the surplus. A bite rim can be formed in this way in from 30 to 40 seconds (See Fig. 4).

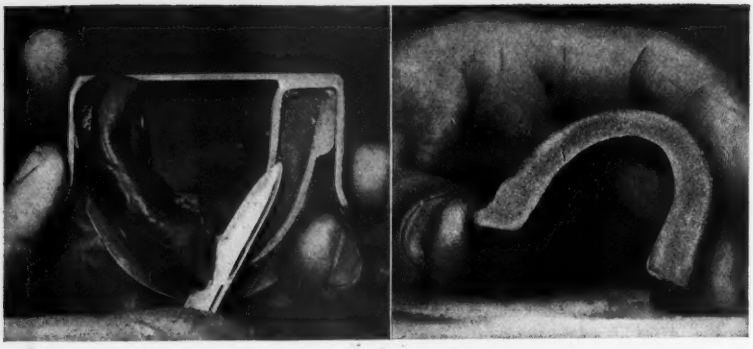


Fig. 4

While the bite rim is still soft enough to permit bending, separate the halves of the former, remove the rim, centre it on the crest of the ridge of the impression form, bend it to the outline of the ridge and attach to the ridge by the technic described in "Professional Denture Service," page 45. Cut away the bite rim distal to the probable location of the first molar. Thoroughly chill the rim. Soften the occlusal surface of the bite rim. Press the softened surface downward on a moistened glass slab until the heels of the tray are about one-eighth inch from the slab, and the bite rim in the anterior region is somewhat longer than at the molars. These proportions may be learned by experience (See Fig. 5).

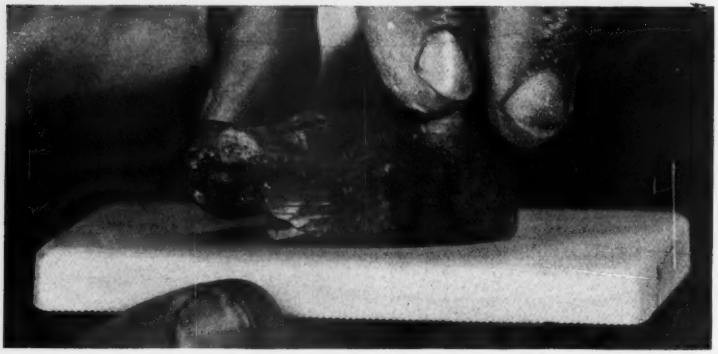


Fig. 5

Place soft compound on the tray at the heels as in A, Fig. 36, and for the incisor region as in A, Fig. 39, "Professional Denture Service." While these additions of compound are still plastic, the tray is pressed against the cast in correct relation, taking an impression of the incisor region and the heels of the cast as illustrated in Fig. 39 B., "Professional Denture Service," which will seat the tray accurately in the mouth.

Fig. 6

Form a bite rim for the lower tray and attach it in the same manner, but do not shape compound over the cast, and make no effort to establish the level of the occlusal plane (Fig. 6).

It is evident that with the exception of the examination of the mouth, the taking of the snap impressions and the marking on the face, this work may be done by the assistant or in the laboratory. If only the snap impressions are to be taken at the first sitting, the marking on the face will be deferred to a second sitting.

Thoroughly chill the impression form in cold water, then while the palatal surface is still moist, direct the flame from a mouth blowpipe

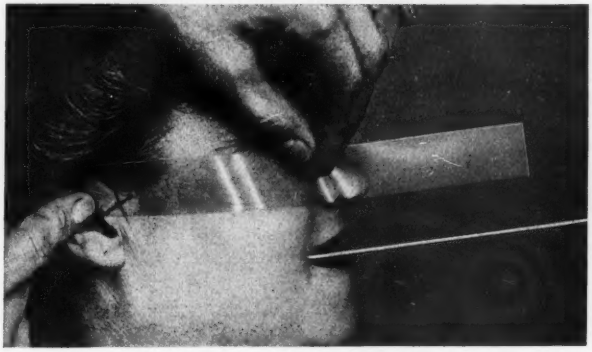


Fig. 7

against it, and with a sweeping movement, soften the impression surface through to the tray, temper in hot water and immediately carry the impression form to place in the mouth, using sufficient pressure to insure its being properly seated. Usually this procedure will give the impression the stability necessary to remain in place while the bite relations are being established.

One should never direct a flame against dry compound with which a sharp impression is to be taken. Dry heat is apt to burn the compound, make it lumpy and cover the surface with fine nodules which will not conform well to the tissues. If the compound is moist, burning will be avoided.

If this stage is reached at a second sitting, draw on the side of the face, with a grease pencil, a line from the upper margin of the external auditory meatus to the lowest point of the wing of the nose (Fig. 7). By the aid of a ruler determine whether the occlusal surface of the upper bite rim is parallel to this line. If it is not, note where it is high, remove it from the mouth, soften the point with the blowpipe flame and press on a moistened glass slab until, upon trial in the mouth, the surface is parallel with the line. By the same procedure make the surface parallel with a line through the pupils of the eyes, when the bite rim is seen from the front (Fig. 8).

Fig. 8

The height of the bite rim at this stage will be less than esthetics require, but this condition will be corrected when the impressions are completed.

Determine the length of the impression by locating in the mouth the point where movement of the soft tissues begins when the patient says "Ah!" To do this, trace across the palate, with a soft indelible pencil dipped in water, a line running back of the tuberosities and crossing the vault where movement of the soft tissue commences (Fig. 9). Slightly moisten the impression surface and place in the mouth; pressing

Fig. 9

firmly against the vault upon removal it will be noted that the blue line has been transferred on to the impression.

Thoroughly chill and with a sharp knife and wheel bur trim the impression and tray away to this line.

Cut notches in the occlusal surface of the upper bite rim, as shown in Fig. 10. These will insure proper interlocking of the upper and lower bite rims.

Apply cocoa butter to the occlusal surface of the upper bite rim and place the upper impression in the mouth. Thoroughly soften the occlusal surface of the lower bite rim in the flame. Dip the lower third of the bite rim in ice water. Dip the softened occlusal surface into hot water and place the tray in the mouth, seating it on the lower ridge. Cause the patient to place the tip of the tongue at the posterior border of the upper impression, in the median line, and close the mouth. As the

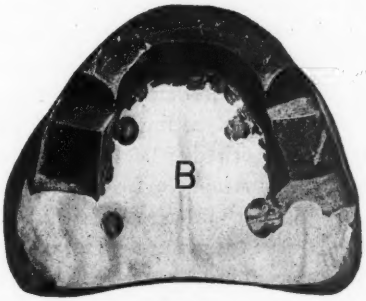


Fig. 10

patient begins to close, hold the tray in position by pressure on the sides of the bite rim, as shown in Fig. 11, which is Fig. 43 of "Professional Denture Service," reproduced.

Chill the lower bite rim with cotton rolls from ice water and remove the tray. With the Boley Gauge, measure the vertical distance from the ridge side of the tray to the occlusal surface. It should be about six and one-half to eight and one-half millimeters. If necessary, soften the occlusal surface of the bite rim and have the closure repeated until this height is obtained.

Fig. 11

The softened surface of the bite rim will be seen to have formed wedges in the notches of the upper bite rim. These will insure correct relations of the rims when finishing the lower impression (Fig. 12B).

Thoroughly dry the ridge surface of the lower tray, soften a roll of compound about one-half inch in diameter and form it as in Fig. 12A, which is Fig. 45 of "Professional Denture Service." Attach it to the tray by softening the tray side with dry heat. With the flame from the mouth blowpipe, thoroughly soften the impression surface; dip the impression in hot water. Place the impression in the mouth. Instruct the patient to touch the tip of the tongue to the rear margin of the upper impression. Hold the lower as in Fig. 11, and guide the wedges of the lower rim into the notches of the upper rim. Cause the patient to close slowly

and firmly. Hold the jaws closed, place the finger between the cheek and the bite rim and gently press the compound against the buccal and labial sides of the lower ridge. Cause the patient to close the lips and suck. While suction exists, make gentle pressure downward against the cheeks and lips to aid in adapting the impression material. Chill in position until stone cold. Remove from the mouth and immerse in ice water.

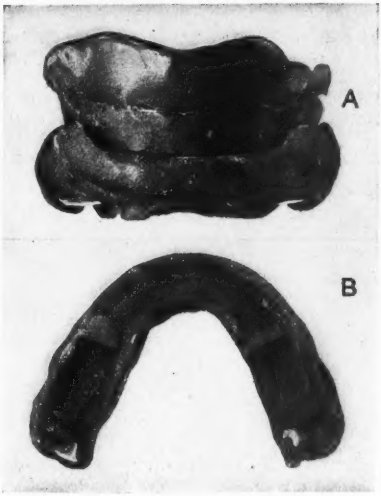


Fig. 12A—12B

The final perfecting of the lower impression is accomplished by following the technic as outlined in the article by Dr. Tench in the March (1919) DENTAL DIGEST, commencing at the second paragraph, page 134.

To perfect the upper impression follow the technic in "Professional Denture Service," pages 79 to 94 inclusive.

In conclusion, the author wishes to emphasize the fact that in simplifying the early steps in the taking of closed mouth impression he has not deviated from any of the fundamentals of accepted methods, but feels that by shortening the time at the chair and making it possible for the operator to delegate much of the work to a laboratory assistant, he has been instrumental in bringing the closed mouth compound impression within the time requirements of the average busy dentist.

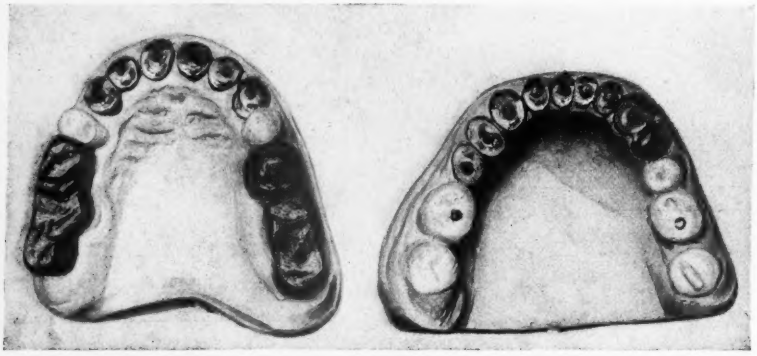
THE RECONSTRUCTION OF A MOUTH

By E. S. Ulsaver, D.D.S., New Rochelle, N. Y.

(fourth paper)

Second Opening of the Bite

By the time the bands and caps for the lower anteriors were completed, the patient had become sufficiently accustomed to the halfway open position of the bite to permit further opening. The extent of the required opening was established by means of pins in the occlusal surfaces of the lower first molars coming into contact with the occlusal surfaces of the articulating blocks worn upon the upper teeth. To provide for these changes, vertical holes large enough to receive 14-gauge wire



Figs. 16 and 17

were drilled in the centres of the occlusal surfaces of the lower first molars, extending through the gold crowns and as far into the teeth as was possible without causing pain. Posts made of Oro elastic clasp gold wire, 14-gauge, were cemented into these holes and allowed to extend a sufficient distance about the occlusal surfaces of the lower crowns to open the bite a little more than would be required by the finished position. Blue inlay wax was now added all over the occlusal surfaces of both articulating blocks slightly in excess of the amount necessary to keep the jaws as far apart as the length of the post necessitated. The articulating blocks, with the wax hard, were placed in the mouth and the patient instructed to chew carefully but not to bite. This chewing was continued until the post in the lower gold crowns came into contact with gold of the articulating blocks. The blocks were then removed from the

mouth and coin gold was cast in place of the wax. During the chewing the posts cut definite grooves in the occlusal surfaces of the wax, which were reproduced in the gold of the finished articulating blocks, as shown in illustrations Nos. 16, 17, and 18.

The interaction of the posts and the grooves accomplished several very important things, as follows:

It established a definite and correct degree of opening of the bite, which was thereafter unchangeable.

It maintained the habitual jaw movements when the bites were opened to an extent where the movements had at first been indefinite.

It furnished a definite and unchangeable point of relation between posts and grooves to be used when the models of the jaws were mounted on the articulator.

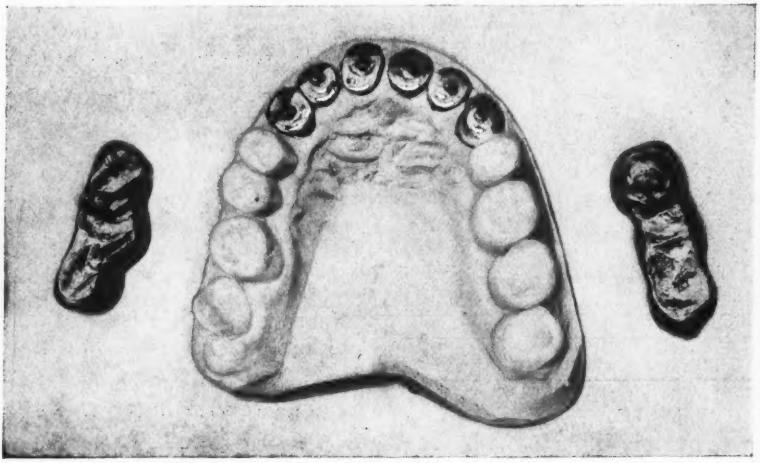


Fig. 18

It established a definite means of reproducing the habitual jaw movements in the articulator.

The finished articulating blocks, built up to enforce the complete opening of the bite, were cemented upon the upper molars and remained in place while the bands and caps for the upper anteriors were prepared. As it was necessary not to mutilate the patient's appearance during this work, or to interfere with the demands of a large practice, it was done piecemeal and occupied several weeks. The method of making the bands and the caps for the upper anteriors was precisely similar to that employed in making the lower anteriors, with the exception that the posts of the upper centrals were of 15-gauge, and of the upper laterals

16-gauge. During the construction of the bands and caps for the upper anteriors, the upper porcelain crowns which had been in position for several years were worn, the posts being shortened and the crown or crowns replaced at the conclusion of each sitting with temporary cement.

PLASTER IMPRESSIONS OF BOTH JAWS

When all of the caps for the upper and lower anteriors were completed, they were placed in position upon the roots, the articulating blocks were removed and plaster impressions of all of both jaws were taken. Some of the caps came away with the impressions, and the others were removed from the teeth and carefully placed in the impressions. The posts were

Fig. 19

removed from the lower molar teeth and placed in the lower impression.

By means of a hot spatula, a thin film of blue inlay wax was flowed around the inside of each band. Care was taken that none of the wax was allowed to lodge on the under part of the cap or the edge of the band. The object was to permit easy removal of the bands and the caps from the model to provide a definite rest at the edge of the band and at the under side of each cap, so that each cap could be replaced exactly to position on the model. Models of Weinstein's artificial stone were poured.

The articulating blocks were then placed upon the upper models, and the models placed in their relative positions by placing the pins in the lower molars in the angles of the grooves which the pins had cut in the

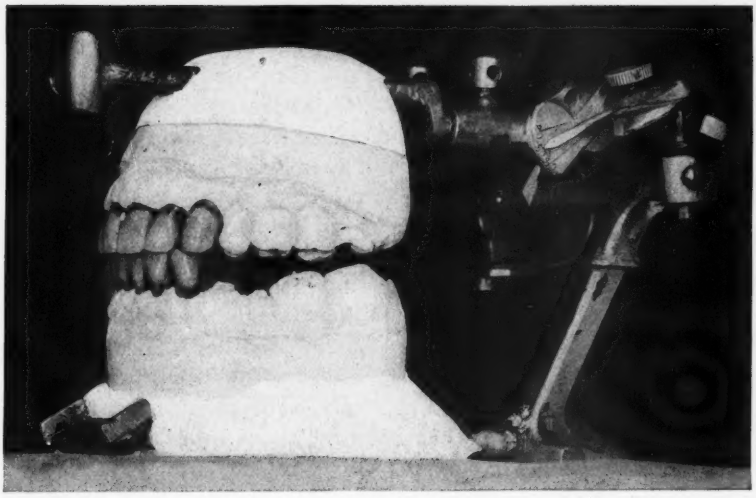


Fig. 20

occlusal surfaces of the articulating blocks. The models were then mounted in the Gysi Adaptable Articulator in such way that the upper anteriors came very close to the incisor guide pin and the occlusal surfaces of the upper teeth were level with a line from the groove in the incisor guide pin to the projection on the inner side of upright part of the frame, made to establish this level.

CHOICE OF ARTICULATOR

The choice of an articulator for this case was a matter of importance. In opening the bite, care had been taken to preserve the movements habitual to the patient's jaw, and it was essential to employ an articulator which would reproduce these movements. The reproduction of such movements in an articulator is dependent upon proper vertical location of the rotation points and the possibility of adjusting the rotation points horizontally until the models perform the movements habitual to the patient. The only articulator in which such adjustments are possible is the Gysi Adaptable.

BALANCE OF STRESS

The reproduction of the patient's habitual movements was essential to the arrangement of the crowns upon the articulator to conform with the movements to which they would be subjected in the mouth. The

incisors were to be arranged to incise food, the cuspids to take up the shock of the closure of the jaw and to guide the anterior part of the mandible in its course, and the bicuspids and molars to triturate the food and distribute the stress of mastication, so that the entire restoration might be as comfortable, durable, and efficient as possible. It was essential that the teeth be so arranged that when the jaw was thrown into lateral articulation the teeth on the working side would show the proper interdigitation of the cusps with the opposing grooves, and proper distribution of stress from the cuspids to the third molar; the teeth upon the other side of the mouth at the same time show balancing articulation from the second bicuspid to and including the third molar.

It would be difficult to overemphasize the importance of proper articulation in this or in any other case of prosthetic restoration, since upon the distribution of stress by articulation depends, to a great degree, the durability and efficiency of the work. The object of the articulation is to prevent any teeth or tooth sustaining excessive stress and to make it possible for the patient to exercise the masticating power of the muscles on both sides of the face.

If the teeth in a restoration are arranged for such articulation, they will be able to withstand all the force the patient will exercise and will remain comfortable and healthy for a long time. If they are arranged in such way that one or more teeth receive excessive stress, the teeth subjected to such stress will be lost, the stress will be transferred to other teeth which will be lost in like manner. A new era for prosthetic dentistry will dawn with the general recognition by the profession of the importance of the equalization of the forces in mastication, and the principles and practice of articulation by which alone, these forces can be equalized.

(*To be continued*)

WHAT MAY BE EXPECTED OF FULL ARTIFICIAL DENTURES

By Kent Kane Cross, D.D.S., Denver, Colorado

(second article)

Before proceeding with the next step, it may be well to consider briefly the relative merits of various bases which may be used. Vulcanite is now used almost universally. There are two reasons why this is true: the cheapness of the material and the comparative simplicity of the technique. That very serviceable dentures are constructed on the vulcanite base is beyond doubt; and the poorer class may be well served with this kind of material.

As for the middle class, which constitutes the clientele of at least half of us, they can afford to pay well for good service. There is no harmony between a $75 suit of clothes and a $25 set of teeth. The clothing can last only a few months; the teeth may be used a life time, and besides the efficient mastication of his "three squares" each day, they are expected to afford many pleasures, such as chewing gum, "finecut" tobacco, or holding the indispensable pipe. The display of jewelry or expensive furs is not in keeping with stock "rubber plates." Too often we cheapen the profession, either by the service rendered or the fee charged.

The wealthy should be served with the most expensive material, if it is best for the case at hand. However, because of present high prices, continuous gum with a platinum base, or even the cast-and-swaged gold base is prohibitive for the majority. It is possible, nevertheless, to render very efficient service by the proper use of material, the cost of which is within the reach of nearly all our patients. I refer to the cast-and-swaged aluminum base.

This has advantages over the vulcanite, the most important of which are its strength, its thinness on the palatal surface, its response to thermal change, and its comparative cleanliness. Some objections have been offered because of the tendency of the vulcanite attachments to break away from the aluminum base; but I believe that the following technique will eliminate trouble. I wish to acknowledge my indebtedness to Dr. Dayton D. Campbell for my methods of casting aluminum.

An artist makes a plaster cast from a model, which may be a human being. So we, in making our restorations of lost parts use as our model the mouth, from which we make our plaster casts. But as Spence's is not desirable material to cast metal upon, we here use our cast model (get this, gentle reader, as our profession is better informed in mechanics

than in technical English), and here again see that the metal tray is slightly larger than the ridge. When so proven, we relieve on the Spence's the corresponding parts found to be hard in the mouth. This may be done with warmed surgeon's tape which is smoothed with wax. Two or more layers may be used if the palatal surface is especially hard. In case several are used, the largest should be placed on top. Hard places on the lower should be relieved also. If the tape used above seems too bulky, hard wax may be placed upon the cast where relief is desired. The surface of the model is now given a polish with talcum powder. Hot modeling compound is then placed in tray. It is surfaced with talcum and pressed firmly against the Spence's. In a moment it is removed. Some practice is required to do this without distortion. It may be pulled slightly away, then forced down again. If there are undercuts, the compound should be guided accordingly. The talcum is then scrubbed off with a brush dipped in cold water and the impression is ready to be poured.

POURING CAST FOR ALUMINUM BASE

The material used in pouring the compound impression is composed of three ingredients, as follows: three and a half pounds of white lake sand; two pounds of powdered silex; two pounds of plaster of paris. This sets fairly rapidly and should not be mixed too thick. To avoid air bubbles, place a small amount on the impression and bounce it over the sides of bowl. When it has set sufficiently, hold the investment upside down over a bunsen flame, warming the edges more than the middle portion. Then strike the tray at the juncture of tray and handle. The blow should be directed toward the handle. With little practice the parts will separate with no injury to the cast or impression. Or soap the compound before pouring and warm as above, and the cast can usually be separated without breaking.

WAXING THE NEW CAST

Pure base plate beeswax is used. It is warmed slightly and adapted to the surface of the cast and pressed down by the workman's thumb. When all surfaces are in contact with the investment, the edges may be trimmed so as to be out of the way. A "wax gun" with tips of different sizes is used here, producing a "shoestring" of wax which is used to outline the border of the vulcanite attachment. This is sealed with a hot spatula and smaller strips of wax are placed across the ridge to make the attachment between vulcanite and aluminum more secure. These are then sealed with a hot spatula. The outer border of the outline of wax is

then smoothed so that there will be little, if any, grinding of aluminum. Four channels are used for the aluminum to flow through; one at each tuberosity, one at an equal distance between these two, and one near the highest point of the ridge at the median line. The case is now ready to be invested or flasked.

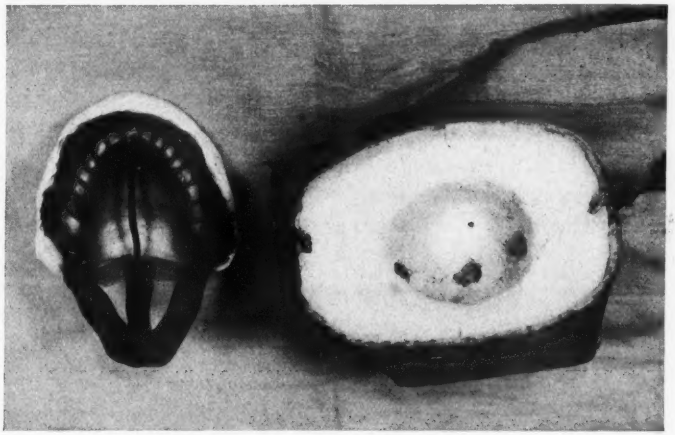


Fig. 6. Upper wax pattern on investment compound made of plaster of paris, silex and fine sand, and case invested in cowbell ready for casting

This is done with a mix like the one used to make the last cast—sea sand, powdered silex, and plaster of paris. The waxed piece is wet and dipped in the mix several times to free the wax from air bubbles; the mix is poured in a cowbell which has had the clapper removed and two small holes drilled in it for the attachment of links of a chain. The total length of the chain should be about 36 inches, and it should have a handle with swivel attached. A good sized place should be cupped out of the top of the investment, exposing the gateways and making a rather deep pocket with perpendicular walls for the molten metal. Although the investment stiffens quickly, it dries slowly. I allow several hours, and prefer all day if investment is poured early in the morning.

A large furnace or oven is needed for drying investment and burning out the wax. This should be done slowly and thoroughly before the aluminum is cast. We use an acetylene blowpipe in casting. Plenty of time is allowed once the metal is molten. The bell and contents are swung a number of times, but it is not necessary to continue until the "deadhead" has solidified. The cast is cooled and investment removed. The excess metal is removed with a mechanical saw and a rough stone on a lathe. The palatal surface is now polished.

SWAGING CAST ALUMINUM BASE

A cast iron ring with two additional pieces, one for the top and one for the bottom are used. The top and bottom pieces are made to fit loosely inside the ring. The top one is much thicker than the bottom one on account of the danger of striking it near the edge. A thinner piece would be driven from the horizontal plane and the force of the blow would not be distributed evenly over all the surface of the metal. First the lower piece is placed, then a layer of either plasticine or putty, then the Spence's cast with the aluminum on it. A cloth is placed over the metal to prevent the plasticine from being forced under the metal. Plasticine is packed well around the cast as this will minimize the danger of splitting the cast before the metal is forced into contact with it. It is then covered with plasticine and the top piece placed over it. The packing may be

Fig. 7. Cast and swaged aluminum base plates

adapted closer to the cast by standing on the packed cast. It is then struck a hard blow with a heavy hammer. The cast may be fractured; if not, it may be struck again if necessary to get proper adaptation. Usually, one hard blow is enough. If you have fear of losing your Spence's cast, another may be made from the compound impresssions before swaging. This is well anyhow, on account of the possible necessary swaging or malleting some particular part, as the posterior palatal border, in order to obtain the desired snug peripheral adaptation. I do wish to discount the contention that it is no easy matter to get the proper adaptation with the metal base, but I am firm in my belief that this method will give the desired results. If there are indications of the valve breaking at some point, the cast may be scraped and the cast malleted with an orange-wood stick.

THE BITE

A sheet of medium soft base-plate wax should be warmed over the flame and worked into a conglomerate mass. This is laid on the metal base over the ridge of the cast upper base and sealed with a hot spatula, trimmed with a hot knife and trued to a metal or vulcanite guide which outlines the shape of the ridge. The top is leveled with a hot spatula or a flat piece of tin. They should be so shaped that in the mouth there is posterior contact rather than interior. This is to prevent shortening of the bite when the wax is pooled in the lower, which is now done with a hot spatula, heating all but the border. The upper and lower parts are now placed in the mouth and the patient asked to close it in an easy position. Do not ask the patient to bite, or the lower jaw will probably be protruded. The act of swallowing usually brings the proper relation of the jaws. It is sometimes necessary to force the lower jaw back by pressure on the chin. If satisfied that the bite is correct, mark the median line. The juncture of the two parts of the wax usually marks the lip line. This should be noted, however, and the high lip line marked also. The parts are marked at right angles with the line of union for fear the wax has not united properly.

MOUNTING ON THE ARTICULATOR

We have been using both the Hall Articulator and the Gysi Simplex with Campbell attachment, but references in this article are to the former. The curve of articulation should be outlined on the wax. The bite jig is placed on the wax according to the curve previously outlined. It is then placed on the articulator and the top poured. As soon as the plaster has set, the lower cast and articulator are united.

At the next sitting, the three upper right anterior teeth are placed in the wax, a section of the bite wax sufficient to allow them to go to the proper place having been cut out with a hot instrument. These are tried in the mouth and adjusted to the satisfaction of the operator and patient. The three opposite teeth are then adjusted and the six lower anteriors may be, but this is not necessary if the bite is correct. A subsequent tryin with all the teeth in position may be made, but we have found that the same result may be obtained in the mouth as on the articulator. It may be necessary to exchange the diatoric bicuspids and molars that come with the anteriors for larger ones. The cusps of these are ground to the 45-degree angle. Some prefer to grind the teeth before setting them up, but this may be done either before or after assembling them. In order to obtain the desired results, the curve of articulation

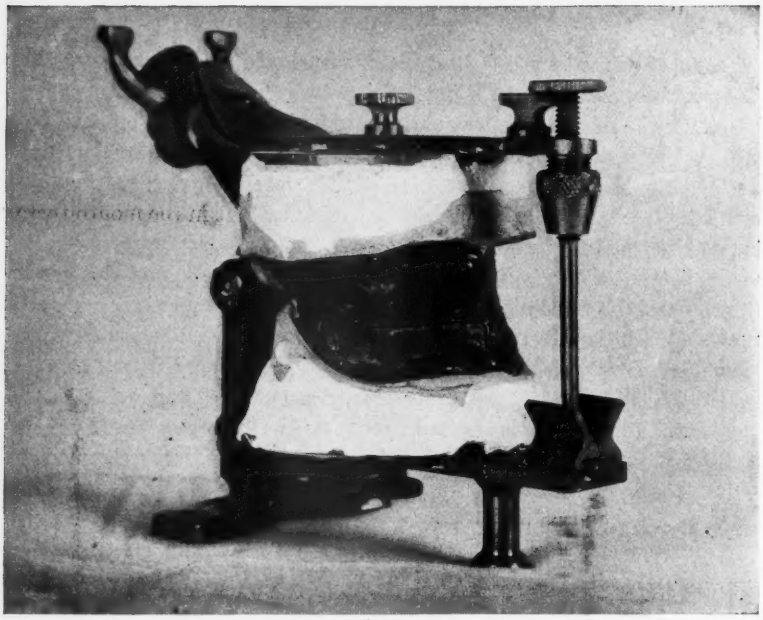


Fig. 8. Bite mounted on articulator

is accentuated. The objects desired in the assembling of the teeth are: deep cusp efficiency, including the interlocking of the cusps; freedom of movement laterally and antero-posteriorly; over-bite of upper anteriors with possible protrusive or end-to-end bite with the last molar cusp in contact; and the "balanced contact" with upper and lower cuspids in contact on one side of the mouth and second molars on the opposite side in contact at the same time. When these objects have been obtained, we are ready for the completion of waxing.

The wax should be cut well away from exposed surfaces and from between the teeth. The surface of the aluminum coming in contact with the plaster should be coated with wet powdered silex to prevent discoloration of the metal. It is not necessary to go into detail concerning the subject of packing and flasking, except to say that if ordinary flasks are used, the case should be tested for the amount of rubber, and excess removed as well as deficiency supplied. If care is taken that the two halves of the flask are together and sufficient rubber is present, there is little change in articulation from what it was in the wax.

The case is now ready to be vulcanized, cleaned, and polished. Lye applied with moist cotton will remove any discoloration not prevented

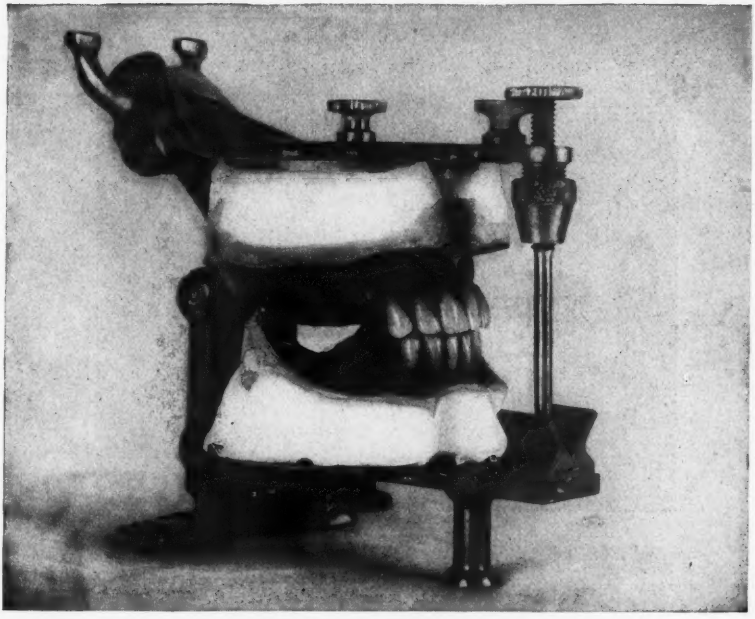


Fig. 9. Anterior teeth set up ready for verification of esthetic effect in the mouth

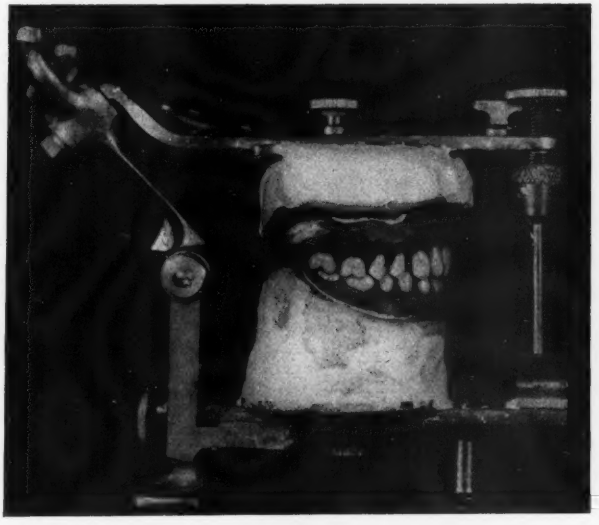


Fig. 10. Finished case showing articulation of inclined planes and overbite

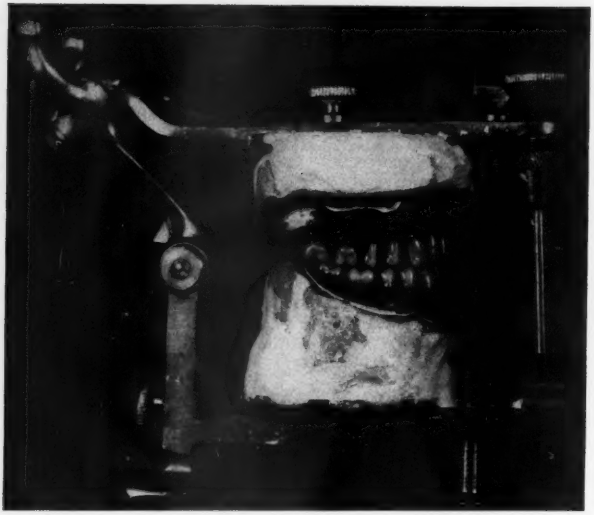


Fig. 11. Finished case showing contact of anterior teeth, contact of mesial cusps of upper second molars with distal cusp of lower molar, with spaces between intervening uppers and lowers

by the silex. It should be washed well; then equal parts of bay rum and sweet oil are applied to the surface of the aluminum and it is burnished with an agate instrument.

The teeth are then placed in the mouth and a correcting bite is taken. A thin, warmed piece of wax is placed over the occlusal surface of the lower teeth, and the patient is asked to close his mouth. If care has been taken in flasking and vulcanizing very little correction is necessary. However, the teeth should be ground with number 90 carborundum dust with glycerine until the test shows practically all opposing cusp planes in contact. It is also necessary to grind to the protrusive bite and all points between the two positions. This is done by moving the adjusting screw between the two positions, little at a time.

By carrying out this technique a degree efficiency in every way superior to the older ordinarily has been attained. The compensation is not only a material one. Perhaps the satisfaction of being able to render superior service is the great reward of the one who has striven to restore the lost organs of mastication and their function.

(To be continued)

POST-DAM OR POST-MORTEM?

By Victor H. Sears, D.D.S., Salt Lake City, Utah

Many a good plate has gone to an early grave because it was not post-dammed. The post-mortem examination sometimes discloses the cause of the trouble; but like good physicians, we, as dentists, should not wait until the post-mortem stage to make the diagnosis.

What is post-damming? Why post-dam at all? Should all dentures be post-dammed? What type of cases should be post-dammed? Will post-damming always create "suction"? How much post-damming is necessary? Where, when, and how should it be done?

What is post-damming? Post-damming is a term originated by the Green Brothers to mean the imbedding of the posterior margin of an upper denture into yielding tissue. The term may be extended to include the imbedding of the margins of full dentures, both upper and lower, except on the buccal and labial parts.

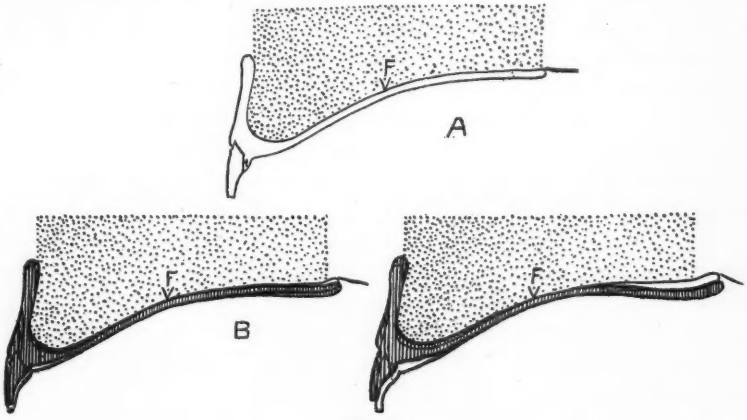


Fig. 1

Why post-dam at all? Post-damming, when properly done, seals the margins in such a way that a slight movement of the denture is possible without breaking adhesion with the tissues. On full dentures, both upper and lower, this adhesion or so called "suction" may make the difference between success and failure and is, in any event, a desirable condition.

Should all dentures be post-dammed? No. If there is sufficient adhesion without it, there is no necessity for this procedure.

What type of cases should be post-dammed? First, all uppers on which the anterior ridge is soft. The softer the ridge, the more post-damming

will be necessary, because this yielding foundation allows for considerable tipping of the plate in the antero-posterior direction.

Figure 1 will make clear the necessity for post-damming soft ridge cases. Where incising pressure causes no appreciable upward movement of the anterior part of the plate, little or no post-damming is required (A). But supposing that there is a vertical movement of one millimeter as in (B), and supposing that the fulcrum (F) is located about half way between the incisors and the posterior margin of the plate; it will be seen that this plate, pivoting at (F), will have a corresponding downward movement of one millimeter at the posterior margin. Therefore, this tipping of the plate during incising will cause the back of the plate to break contact with the tissue and thus "break suction," unless the plate is post-dammed; that is to say, unless the posterior margin is imbedded about one millimeter into yielding tissue. In order to press into the tissue this much it is necessary to extend the plate posterior to the hard palate.

If there is an upward movement of two millimeters as in (C), the post-damming must be sufficient to permit of two millimeters downward displacement of the posterior margin of the plate, and, obviously, it is necessary to extend the plate farther back upon the soft palate to get sufficient pressure.

A second type of case which should be post-dammed is the full upper, whether soft or hard in the anterior part, which breaks contact when pressure is exerted on the anterior teeth.

A third case is the full lower which does not exhibit the property of adhesion.

Will post-damming always create "suction"? We are safe in asserting that when the muscle and tissue attachments are not covered by the denture and when all the margins are imbedded into yielding tissue, there will always be "suction." If a denture, either upper or lower, does not exhibit this property, it is evident that there is a leak somewhere along the margin which should be located and dammed.

How much post-damming is necessary? On the upper plate post-damming should generally extend across the posterior margin from tuberosity to tuberosity. Occasionally the tuberosity itself should be post-dammed. Care should be taken not to build up too high in the very centre of the vault, especially if the centre is hard. The result can be more accurately accomplished where a test impression is made. When using the all-compound technic, the post-damming should be the last step in the preparation; when using the plaster wash, the post-damming should be done just before the wash is used. Modeling compound or wax may be used for this purpose. If modeling compound is used it should be traced on from the hot stick. Then the cold impression should be

heated with a mouth blow-pipe, just at the margin of the newly added compound. This will make a smooth joint. If wax is used no heating is required.

The black wax upon which teeth are carded lends itself well to this purpose, because it is workable at a low temperature and can be easily fastened to a dried impression. The wax should be thinned out on the margin in such a way that there will be no prominent line visible on the finished denture.

The upper is post-dammed by adding wax or modeling compound upon the posterior margin thick enough so that the impression will not be tipped down when upward pressure is exerted upon the anterior ridge. The margin of most lower impressions may be post-dammed back of the six front teeth until an upward and backward pressure in the incisor region will not raise the impression without considerable force. The posterior part of the lower should be imbedded into the soft tissue just back of the tuberosities until the back of the impression does not raise up when slight downward and forward pressure is brought to bear on the incisor region (Figure 2).

Fig. 2

Nearly all lowers can be given strong resistance to an upward and backward pressure in the incisor region and comparatively good resistance to vertical force in the same region. But unless there is a cushion of soft tissue back of the tuberosities, it will not be found possible to get a great deal of resistance to a forward and downward pressure in the region of the six fronts. Incidentally, it will be seen that this is a good reason for setting the lower anterior teeth directly over the ridge, so that they will lie directly in the line of force upon the ridge.

With all post-damming it will first be necessary to be sure that the

buccal and labial margins of the upper impression and the buccal, labial, and lingual margins of the lower impression are sufficiently trimmed to allow free movement of the attachments before any attempt is made at post-damming.

Some operators prefer to post-dam the upper plate after it has been completed. This may be successfully done by turning up the posterior margin, provided the plate extends far enough on to soft tissue.

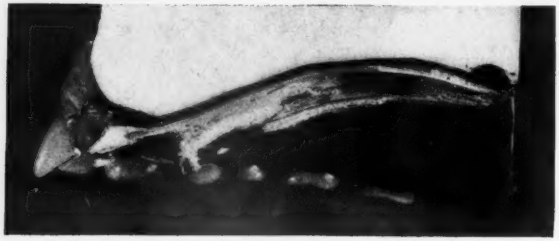


Fig. 3

An accurate way of turning up the posterior margin is first to run a cast into the plate. Scrape away the posterior part of the cast, as shown in Figure 3, cutting slightly deeper than you wish the plate to go. Pass the posterior part of the plate through the bunsen flame a few times to soften the vulcanite and then press the softened margin against the cast and hold there until the vulcanite is again hard (Figure 4). Now buff the palatal surface where the edge has been turned so that this surface will not irritate the compressed tissue. This procedure will sometimes redeem an otherwise useless plate.

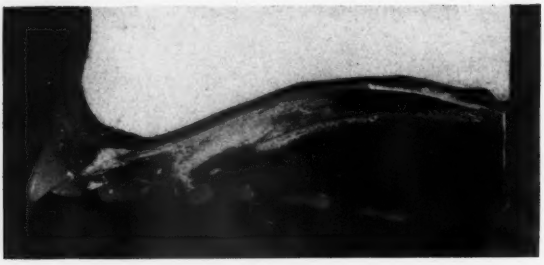


Fig. 4

Now, perhaps more than ever before, the prosthetist is seeking ideas that will bring prosthetics to the position it deserves, and any suggestion which might carry the work toward a higher grade of service receives attention. For denture construction the full use of the post-dam is such a suggestion.

PASSING OF AN IDEAL PHYSICIAN

The following statement is characteristic of the late Dr. William Osler, who died at his home at Oxford, England, on December 29, 1919. It shows why he was loved, why he succeeded—why his name will appear in the history of medicine as an example of the ideal physician.

"To have had the benediction of friendship follow one like a shadow, to have always had the sense of comradeship in work, without the petty pinpricks of jealousies and controversies, to be able to rehearse in the sessions of sweet, silent thought the experiences of long years without a single bitter memory, fill the heart with gratitude. That three transplantations have been borne successfully is a witness to the brotherly care with which you have tended me. Loving our profession, and believing ardently in its future, I have been content to live in it and for it. A moving ambition to become a good teacher and a sound clinician was fostered by opportunities of an exceptional character, and any success I may have attained must be attributed in large part to the unceasing kindness of colleagues and to a long series of devoted pupils whose success in life is my special pride."

A GOOD BEGINNING

The proposals for the medical and dental treatment of London school children for the coming year, which will be considered by the London County Council, include the provision of five new minor ailment centres and five dental centres. It is expected that 200,000 cases will be dealt with at a cost of 71,000 pounds sterling.

TO "THE DENTIST'S WIFE"

If the dentist's wife who wrote me seeking to learn through the pages of this magazine whether her husband is a financial success, will write me her name and address, I will help her frame her question in such way that she will be much more likely to get the information she desires. Many others may be interested in her question. Her communication will be held confidential.

From the day of the founding of this magazine, it has been the policy to pay no attention to communications not bearing the writer's name and address. The lady's course in this case was natural enough but she can be shown how the magazine can be more helpful to her by slightly altering it.

GEORGE WOOD CLAPP.

SOME PHASES OF DENTISTRY ON GALLIPOLI

By Dr. W. M. Amphlett, Sydney, Australia

If I were to tell you of the doings of my unit—the Fifth Field Ambulance, A.E.I.—"The Dandy Fifth," as we loved to be called, you would learn of real things done by real men and my task would be easier. Before relating my own personal experiences as a dentist in Gallipoli, I think some idea of the composition of the "Fifth Field" will help.

To begin with, we were all volunteers from many grades of society and we all enlisted in the ordinary way and were afterwards picked out for the A. M. C. In those early days of 1915, and indeed right to the end, the class of men selected for stretcher work and for field ambulance service was a high one physically and otherwise.

That a very big portion of A. M. C., after seeing all the horrors of war, of their own volition should change to the fighting forces seems only natural when one knows the men. We embarked on various troopships during May of 1915, and eventually got together in Egypt. There we were trained for some five weeks—route marches every morning of ten or more miles, physical jerks and stretcher drill, which soon put us fit. We reached Gallipoli on August 20th or 21st, in the "wee small hours," and immediately began work on the extreme left toward Suvla. By this time most of the severe fighting was over, but our first three weeks provided quite enough excitement for any ordinary individual.

About the middle of September we were moved to the centre of Anzac and lodged in "Rest Gully." The man who christened it "Rest" was a humorist beyond doubt.

We dug our own little caves on the side of the hill in our spare time and erected tents, etc., after we had chopped out flat spaces to contain them. There was no official provision in the Ambulance for a dentist, but the need of one had been thought of, and out of the three dentists, Private Sutton, later Captain, was given the job. Unfortunately he was invalided and sent away suffering from the ever-prevalent Enteric. Shortly after his departure Divisional Headquarters sent down a message, "Have you a Dentist? If so, let him report immediately to Headquarters." Well, I was sent along and had to interview the General commanding the Second Division A. I. F. I saluted him, he saluted me, and then I stood "easy" and he explained that a cracked gold plate was the worry—could I mend it?

Visions of a forge used by some engineers, a Primus stove and a blowpipe improvised somehow. Solder from an Egyptian coin and a bit of

cartridge casing. All these flashed across my mind. Suddenly it occurred to me, suppose I spoil the thing! And he the General, too! So I said it could not be done. I was certainly very scared of Generals those days. The next day it was decreed that there should be a dentist—at this time I think only the New Zealanders possessed such a thing—and there were I suppose at least 15,000 or 20,000 Australians or Anzacs. I got the position wished on me. Just previous to this I had been made a Lance Corporal (no extra pay) and felt that I was surely climbing.

A survey of the kit provided in Sydney by the Red Cross revealed that only one case of three remained. Its contents: one glass slab, and an engine of a portable type; three forceps, a small bottle of oil of cloves, one bottle amalgam, three parts full, one packet of nerve broaches, a few teeth, both pin and diatoric; one vulcanizer and two flasks, two packages of rubber, one Primus stove—these with some twenty-five burs constituted the lot.

From the Ambulance equipment I got a small glass syringe and some hypo. needles and plaster intended for fracture cases, also mercury. The sergeant dispenser compounded a local anesthetic, and I scraped down the handle of a tooth brush for a spatula. A chair was improvised out of a bully-beef case; two slats of wood nailed at a slant and a cross piece enabled the head rest to be firmly placed.

A bit of ground between two tents, sheltered overhead by an awning, and on one side by a wall of sand bags provided a surgery. I nearly forgot to add that we upholstered the chair with cushions or pillows from stretchers, and as the earth floor was somewhat uneven a stay from the back with a T-piece was added to help keep the "Columbia" steady. By adding or subtracting cushions, an excellent high or low position was obtained.

Just about 100 feet above the surgery was one of the few batteries of 18 pounders, and when they fired, or the Turks fired at them, it always reminded me of a man who years ago used to travel the suburbs of Sydney with a wagon—a public extractor—he always had a band, and the drummer was a powerful chap.

I shared the surgery with the dispensary, and all the wounded were dressed on a stretcher which served as an operating table when required. One day the Doctors were probing without an anesthetic for a bit of errant shrapnel lodged in a prominent rear part of the anatomy of one of our Sergeants. Just to show them what they were looking for, the "Amiable Turk" sent over a free and full supply of shrapnel. The result was a complete scatter, and only a poor patient in my chair and myself were left. At the moment I hadn't enough sense to duck underground

and my patient may have been too scared (by the combination of things generally) to slope.

Patients were pretty numerous, as the food—mostly the real hard biscuits of early days, and a very stringy variety of tinned beef was extremely hard on teeth. Bridges, crowns, especially those with facings and plates were often broken, and something had to be done for these cases; besides, I think that the enfeebled shape of the troops generally rendered them more subject to toothache. Soon my amalgam began to get very low, and whenever possible, I used zinc oxide fillings. Just what the total number of fillings amounted to I cannot say, but together with extractions and repairs to plates I rarely did any stretcher-bearing save at night. Repairs were done in the aptly named "dugout," and when the snow and blizzards came along in October and November it was no hardship to have the Primus going, as it seemed to keep the habitation warm; besides that we always got enough water to fill the vulcanizer, and many of the chaps got an extra cup of tea or cocoa out of "repairs"—quite a consideration I assure you. After a big fall of snow, we used to gather the frozen snow and melt it down. It was not very good to drink, but served for use in vulcanizing.

In December came word of the evacuation, and we were all paraded to enable volunteers for staying to be selected. By this time our full strength (including some thirty-two re-enforcements) was down from 210 to 87 men, and of these 85 volunteered—the other two were really ill and unable to work.

The whole ambulance equipment, save for a few necessities, was packed and sent off and some 36 of us remained, distributed at various points with the infantry to await the flitting.

I should mention that early in the campaign Capt. McIntosh, then a corporal with the 1st Battalion, did a considerable amount of professional work, and also that on the beach there was a sign "Dentist," but who worked there I know not—he was not in my time. I have already mentioned that the New Zealanders had a dentist, and he must have had his hands full and been a boon to many.

After the evacuation we went to Lemnos Island, and there was the first properly-equipped Australian unit under the present Lt. Col. F. Marshall, C.M.G. The Dental Corps was immediately increased on our arrival in Egypt, and all dentists were taken away from their respective units and given the rank of "Hon. Lt." and set to work.

A good equipment—an excellent service of supplies was the order of the day, and many men were attended to in the sands of Tel el Kebir and on the banks of Suez Canal.

Subsequently we were moved to France and the Corps grew to a very

big and important one; doubtless, its history is similar to that of those men who had the privilege of rendering dental aid to your own gallant Americans.

TWELFTH ANNUAL CONGRESS OF THE AMERICAN SCHOOL HYGIENE ASSOCIATION

To be held in Cleveland, February 24 to 28, 1920

The preliminary programme of the twelfth congress of The American School Hygiene Association to be held in Cleveland the latter part of February, has just been issued by its Secretary, Dr. William A. Howe, of the State Department of Education, Albany.

This Association is composed of prominent educators and health workers in various parts of America. The programme as outlined will consist of nine one half day sessions, beginning on Tuesday morning, February 24th and closing on Saturday morning, February 28th.

All of the first day will be devoted to the consideration of Health Education. The entire second day will be devoted to School Health Service, including School Medical Inspection, Physical Education, School Nursing, and other activities under the general title of school health service. The session on Thursday morning will be devoted to Sex Education and Communicable Diseases. State Commissioner of Health Freeman of Ohio, is listed as chairman of this section. Thursday afternoon is given to the subject of Nutrition of school children, under the chairmanship of Dr. William R. P. Emerson of Boston. On Friday morning seven papers on Mouth Hygiene will be presented by prominent dentists of this country and Canada. The full programme of this section is given below. Friday afternoon will be devoted to Mental Hygiene under the chairmanship of Dr. Henry H. Goddard of Columbus, Ohio. The closing session on Saturday morning will be devoted to a symposium on the Relation of Health and School Authorities. Dr. Willard S. Small of the U. S. Bureau of Education is chairman of this section.

The entire programme is filled with much valuable material and will prove, in our opinion, the most constructive and progressive contribution of recent years to our literature of school health service.

It is earnestly hoped that the dental profession of the country will avail itself of the opportunity, not only to hear the section devoted to Mouth Hygiene, but many others of the congress.

Membership in the Association, which includes a copy of the pro-

ceedings of the congress, is $3.00 a year. Let the secretary hear from you.

MOUTH HYGIENE—FRIDAY MORNING, 9:30

How can the National Dental Association aid in a programme for better teeth and better health for school children?
Otto U. King, D.D.S.
Secretary, National Dental Association

Teaching of Mouth Hygiene to School Children from the viewpoint of the Dental Journalist.
Rea P. McGee, M.D., D.D.S.
Editor, *Oral Hygiene*, Pittsburg.

The Relation of good teeth, clean mouths, and good nutrition to good health (with film "Come Clean").
Major L. G. Mitchell, U. S. A., Washington.

Oral Hygiene and its relation to all health educational activities.
Homer C. Brown, D.D.S.,
Ex-President, National Dental Association, Columbus.

How can school children be taught preventive dentistry?
Dr. Eudore Dubeau, L.D.S.,
Ecole de Clirurgie Dentaire de Montreal.

Children's work in the Rochester Dental Dispensary and in the Schools of Monroe County.
Harvey J. Burkhart, D.D.S.,
Director. Rochester Dental Dispensary.

Junior Red Cross and School Dental Ambulance Service in Rural Communities in Nassau County.
Walter J. Multer,
Supervising Principal of Roslyn Public Schools, and Director of Junior Red Cross Dental Ambulance Service, Roslyn, L. I.

COÖPERATION

By Hal Cowles, D.D.S., Newport, Ark.

Out of the chaotic post-war conditions the old motto "Do others before they do you" is being supplanted by "Live and let live." It would be well also to change "Do your bit" to "Do your best." The human race is so interdependent on the various specialized industries and activities, that to abolish one is to annihilate the others. For illustration: The coal crisis means the closing down of transportation, thus affecting the movement of raw material; the factory operations cease, thereby throwing the laboring class on the public for subsistence; the public needs the finished product for their pursuit of business enterprise—so in turn the miner, the railroader, the factory employee, the farmer and the public are each brought to a full realization of their dependence on each other. At this crucial time—at this formative period—all could be systematized so that each might live (not exist), and each emerge on a broader, more satisfactory plane of life by coöperation.

A similar condition has existed in the professional world. The doctor of medicine and the doctor of dental surgery need each other. The one's diagnosis without the other's is often incomplete, and as much may be said in the treatment of many systemic diseases and in overcoming many oral pathological conditions. The principal trouble between the two was which knew more than the other, and the quarrel is just about at an end and the arbitration committee reasons as follows: The doctor of medicine for medicine, and the dental surgeon for dentistry; but the time has come to banish snobbery and to coöperate. The need for such coöperation was more manifest than ever before in the United States Army, resulting in the stimulation of a profitable, broadening relationship to both professions. Their coöperative field is unlimited, with opportunities for greater achievement, and since the barrier of cold reserve and selfish egotism is down, it is up to the dentist to keep it down, to keep it down by the improvement of professional ethics, education, workmanship and the enlightenment of the public.

No dentist has attained a high degree of ethics who allows one case to leave his office unless he can truthfully say "that is my best," whether a diagnosis or an operative procedure. The dentist who says, "That is good enough," not only hurts his colleague professionally but he has not earned the fee demanded as a proof of his trained and professional skill. "That is good enough" is the admission that he is not the man to fill the professional position he assumes. He has failed to coöperate for his patient and with his profession.

For the enlightenment of the public, "Fight fire with fire." The advertising dentist has accomplished some good in an educational way in spite of the harm done by the cheap, shoddy class of work he has thrust upon the public. We, as a profession, can not do away with advertisers, but we can legitimately advertise so that every man, woman, and child will know the difference between a fifty cent alloy filling and an anatomical restoration. We can teach the difference between a muscle-trimmed denture with prosthetic contour and a seven dollar set of teeth. We can teach prophylaxis, oral hygiene, and reach the parents through the children. We cant each dentistry by advertising so that our professional standard is raised three hundred per cent. and at the same time raise the status of the individual through such education. We are not living in the Dark Ages, neither do we carry grubs in our pockets to convince the people concerning bacteria. Can you censure a man for asking for a three dollar shell crown if you know that is the height of his teaching? The dental profession should do as much for its clientele as the medical profession has done for hers. As long as we live behind our noses we can not demand an unlimited horizon. Coöperative advertising has made the gigantic and successful corporations of to-day.

Just so long as we remain in the narrow confines of a limited horizon—just so long as we conduct our profession for ourselves or for the benefit of a few—we have no right to bemoan the fact that we are unrecognized—we have no right to complain that the public does not appreciate our status. Well why should it?

A very good illustration: A certain well-qualified, well-educated man having spent years on the perfection of a certain method in the practice of dentistry was employed to impart his knowledge and technic to other ethical practitioners. It necessitated that they (the majority of them) come from other states to secure this training—they were college graduates—authorized, legal, licensed dentists in their respective states and sufficiently progressive to wish to learn a method which would insure greater service to their patients; but they were not licensed in the state where this course was being conducted, and it so happened that the instructor was not registered in that state. No one was operating for fees, and the course was entirely post-graduate work. Instead of the cooperation and aid from the state leaders the course was prohibited. If there were such regulations as to make this prohibitory, are not the same laws sufficient to keep down the higher attainments of dentistry? In many instances they do. Why is it necessary for a man who has satisfied all the legal requirements of a school and a state to be subjected to the scrutiny and wiles of others—possibly undergraduates, because they were first on the ground? In passing through various places in the United

States—in the east, west, and south—one observes various types of towns; possibly in the same community are two little cities developed under the same conditions of climate, railroad activities, abundant with raw material and other facilities; one of the places will be full of bustle, activity, business and contented people—the other presents an uncouth, lethargic wanton. The one town has been engineered by live, progressive business men, whose commercial foresight stimulated them to protect and make livable the lives of the people who were their profit makers. The other town is a one man affair, his grabbing, greedy nature has shortened his sight, so that he harbors a group of slovenly loafers who eke out an existence and whose chief commercial organization is the knockers' club in the pool room.

Thus we find the One Man Dentist and the Dentist for Dentistry. The one man dentist ceased his intellectual and professional progress the day that he drew himself into his stuffy office. His main outlook on life was to criticise the other fellow, to get his hooks into others; in his arrogance and greed he had reached the ultimatum of a self-satisfied, self-centred existence, and the rest of the world could go hang. He takes his impressions like he did years ago—he uses the essential oils for all conditions presenting—his sterilizer is generally a much used towel, etc. (We beg to relate that it is not necessary to travel as far to find these kind of men as it was to find the compared towns—this is not a criticism, but just an invocation for God's pity.) The Dentist for Dentistry is a wide awake business man, ambitious for his own interest but equally alive to the interests and welfare of the community and his coöperators. He studies the latest methods, is a member of the societies of his State, renders high service and attracts coöperation. He is not a radicalist, but each new development in dentistry is not criticised but weighed and considered; each patient is a pupil who learns the gospel of a clean mouth; every individual is benefited by his wholesome teaching. To the State he is an economic factor, to the profession he is a live wire, a mental stimulus, an inspiration, a brother. His success has not been determined by a small pile of paltry dollars.

In many states are licensed men practising who are undergraduates, their practices are lucrative, but they have never been stimulated to secure their degrees. I believe the profession should do all in its power to aid these practitioners in obtaining them. Their years of practice and service warrant recognition, but to maintain and keep up a professional standard all men practising dentistry should have these credentials. The state organizations by community organization could assist these men in becoming so qualified. I would want every man in my state to have his degree. I would want every colleague to have a knowledge of

pathology, bacteriology, histology and all of the latest methods in dentistry. I would rather take a license away from a self-satisfied drone than to keep a young man from practising dentistry, because his gold filling (presented for grading) had dogears on its margin. If a poor workman was found in the Army his work was not stopped and his patient turned over to George. No, he was boosted; he was shown where and how to improve, he was one of the big body of coöperators and his work was brought up to a recognized standard. We are just as responsible to our brother workers in the profession—their success, their attainments are ours, and if we knock and criticise and hunt the weaknesses then we have destroyed the very highest for which a profession stands.

Our profession is no longer a question of private interests, for we have found the place where we fit into the machinery of the world. It is a question of coöperation within coöperation for coöperation.

FUND FOR THE RELIEF OF FRENCH AND BELGIAN DENTISTS

South Dakota Dental Society, $50; Georgia State Dental Society, $130; Dr. Hector G. Marlatt, $5; Miss Mary Daly, $1; Warren County Dental Association, $10. On December 31, 1919, we also sent a draft to the Committee in France for $2,000.

L. M. WAUGH, *Treasurer.*

THE TOOTH OF TIME

This world is full of changes; there's nothing here abiding;
All things are evanescent, fleeting, transitory, gliding.
The earth, the sea, the sky, the stars—where'er the fancy ranges,
The tooth of time forever mars—all life is full of changes.
Like sands upon the ocean's shore that are forever drifting,
So all the fading scenes of earth incessantly are shifting.
Change rules the mighty universe—there is no power to block it;
There's change in everything, alas! except a fellow's pocket!

WHO CAN SOLVE THIS PUZZLE?

By Herman Ausubel, D.D.S., Brooklyn, N. Y.

In the May issue of the *Dental Cosmos*, Dr. Talbot writes as follows: "Researches have shown that 95% of all roots are imperfectly filled. After my twelve years of research on this subject, the wonder to me is that the other 5% do not also show imperfections."

In the April issue of the *Items of Interest*, Dr. Ottolengui wrote a timely editorial entitled, "The Degradation of Dentistry." In it he states that radiographs have pictured thousands of oral foci, 80% of which lurk under crowns and bridges.

On the other hand, it is stated on good authority that only 10% of the people avail themselves of dentistry, not counting extractions, due to fear of pain, neglect, poverty and ignorance. This 90% of the population do not apply to us for help which they need so badly at a time when real, constructive work could be done for them.

It is also stated that we haven't enough dentists in the entire United States to take care of the school children alone, during the most critical period of their masticatory apparatus, at the only time when real, constructive dentistry of the safe and sane variety is at all possible before there is any necessity for devitalization, extraction and prosthetic restorations.

Ordinary fillings or inlays inserted in superficial cavities at this stage of their lives, and rigid prophylactic treatment applied periodically would preclude the possibility of tooth devitalizations with their subsequent focal infections from imperfectly filled root canals, and would also preclude the necessity of extracting teeth and the subsequent insertion of septic crowns and bridges.

In spite of all that, the greatest number of the present day dentists are actively engaged in the practice of the so-called septic root canal fillings and septic crowns and bridges, while the constructive and beneficial work for our children and 90% of adults is entirely neglected. Who is to be blamed for this perverted order in the profession?

Do you think that the "Socialization" of dentistry will reverse the order?

Do you think that intensive publicity and the opening of the curtains of our professional secrets to the public gaze will help matters?

The solution of the question under consideration is, to my mind, the keynote to all reconstruction problems that the dental profession will be confronted with in the near future, and the sooner we get to some definite conclusions on the subject the better for all concerned.

The dental profession is on trial before the Grand Jury of Experience and is found wanting.

Unless we are satisfied to be put in the "scrap heap" as malefactors of the human race, and as being a menace to the health of the people that we are supposed to conserve, let us prepare an answer—and mighty quick, too—to the challenge that has been flung to us by Hunter, Mayo and others that we are practising septic dentistry.

There is still a chance for us to save our skins by adopting drastic methods and radical means in the near future to so alter the nature of our work that we shall be considered a blessing to humanity by our most skeptical and carping critics instead of a menace, as we are being looked upon to-day. Every procrastination will aggravate conditions.

Oh! ye wise men of the dental profession, come forward and find a solution to this perplexed, criminal and apparently paradoxical state of affairs existing within our ranks.

There is nothing of greater importance or of such vital significance to our very existence as this.

Upon your decision or lack of decision we either stand or fall.

THE HYGIENIST IN THE OFFICE

MARIE A. SAWYER, D.H., ROCHESTER, N. Y.

A very old law and a very new profession have of recent years come together: the law, that of demand, the profession, Dental Hygiene.

In these days when specialization is the concentrated form of all efficiency the dental profession found that to give proper attention to its various special branches the mouth must be prepared for its work. It also found that two hands and eight hours each day did not permit much extra expenditure of time, and that human limitation required the services of another "specialist."

While many of the progressive dentists have employed hygienists for several years the profession as a whole has only recently awakened to the possibilities that the hygienist offers in her services. Some dentists have really objected to the hygienist, but I find that these are in the minority and that their objections were based more largely on prejudice than fact. It was not surprising that they took this attitude, because every new idea in the world must run the gamut of opposition when breaking in on old traditions; but were it not for the spirit of the iconoclast this world would still be flat.

If the hygienist never picked up a scaler or polish she would still have her psychological effect in the office. To begin with she is a carefully-trained professional along the theoretical side of dental hygiene and medicine. The natural intuition possessed by nearly every woman is added to this knowledge, and her innate tact, adaptability and refinement are other features to be considered.

The hygienist in the office can make herself indispensable to both dentist and patients. Very often she is called upon to mediate between them, and here is where her tact and resourcefulness count. Some patients make their visit to the professional field one of extreme dignity and reserve. Others take a different view and look to the professional for friendly advice, sometimes making confidences quite personal in character. Many times patients are suffering mentally and physically and ready sympathy and wise suggestions are sought.

The comfort of the patient is an important matter, and her natural protective instinct is apt to show itself more helpful in emergency than in anything that could be done by the dentist. This is appreciated by the children who come to the office. Many cases of shock may be averted through diverting the minds of the patients, and causing their visits to the dentist's office to become kindly remembrances rather than associated with the thought of fear.

DENTAL LAWS

INTERNATIONAL DENTAL CREDENTIALS

By Alphonso Irwin, D.D.S., Camden, N. J.

Enquiries concerning laws, regulations and requirements governing the practice of dentistry in foreign countries are now so numerous that the following extended article on the subject has been carefully prepared for the readers of The Dental Digest.

When a dentist desires to locate in a foreign land, certain official formalities must be observed. If he deems the legal regulations of his own country burdensome, he will find upon migration that these burdens are multiplied, rather than diminished, as some seem to imagine. Excessive formalities must be complied with, which the exigencies of the war temporarily suspended to some extent. This increase in complications should be distinctly understood at the outset, in order that they may be met intelligently. So should it also be clearly understood in the beginning that these statements do *not* apply to *all* foreign countries, but are true of many of the most desirable ones. The civil regulations for dental licensure are usually strict in proportion to the culture, refinement and wealth of the nation involved.

The credentials referred to generally as being necessary for a foreign-born dentist—an American, for instance—to possess and present to the proper authorities prior to entering upon the practise of any profession (but dentistry more especially, in any foreign country), usually consist of the following:

A diploma from a reputable dental college, signed by the professors of the said college and countersigned by the Provost or Dean or Secretary, Registrar, or Rector of the School. A State University diploma is always preferred.

A license, properly signed, from the Board of Dental Examiners of the state or country wherein the dental college is located. This state license is indispensable and validates the dental diploma abroad. Both diploma and license should be certified to by either the Secretary or Governor of the state in which the applicant resides.

A recent, unmounted, cabinet-sized photograph of the candidate endorsed by the Dean or Registrar of the college, after being attested to by a Notary Public as being a facsimile of the rightful possessor of the above diploma, is required as a preliminary step in this country by the

State Board of Dental Examiners. This photograph should also prove useful as an aid to identification in a foreign land.

The Secretary of State at Washington, D. C., should then be approached to visé the above credentials and attach the official seals of state thereto. The Consul-General located in New York City, from the foreign country concerned, should be satisfied as to the authenticity of the credentials and the identity of the applicant and his signature attached to said credentials.

The Secretary of State of the country into which the foreign-born dentist expects to locate, after the credentials have been translated into the language of the country by an official interpreter, is then solicited to endorse the document, after the nearest Consul resident in the foreign country representing the native land of the applicant certifies to the genuineness of the document. The Secretary of Public Instruction is often substituted for the Secretary of State in the foreign land.

Two witnesses, residents of the foreign land, preferably freeholders, who are *not* related to the candidate, are required to identify the applicant and vouch for him as the rightful possessor of the credentials.

Pre-dental educational qualifications of a certain standard are required by some foreign countries, which designate such requirements specifically in their instructions.

After all these official preliminaries have been observed or carried out, in many foreign countries the applicant is required to take at least one year's course in the foreign dental school nearest to the place where he desires to locate, and pass the final examinations, paying all the fees required before he is granted a license.

These steps presuppose a practical knowledge of the official language of the country, without which the candidate cannot hope to achieve success, either in obtaining a license or acquiring a practice. Furthermore, it should be borne in mind that the granting of licenses to practise dentistry abroad, while dentists may conduct the technical examination, is under *medical supervision;* also that many of the Universities, Medical and Dental Schools are under governmental control, receiving appropriations which help to defray the expense of conducting them; in other words, they are State Institutions.

While we do not represent that each and every one of these formalities must be observed by every foreign-born dentist applying for a license to practise dentistry, in each and all foreign lands, we do assert that any alien dentist who wishes to establish himself firmly and legally in a foreign country should omit only such procedure as he is advised to omit, with the consent and approval of the proper officials of both countries; and furthermore, he should scrupulously observe all instructions imparted to

him by the Dignitaries of the governments represented, the Faculty of the dental school in which he may become a student, and the Examiners who shall conduct the final test of qualifications for practice in that particular country.

The foreign-born dentist who is provided with all of the above credentials is well equipped, and, his other qualifications being equal, should achieve gratifying success, particularly if he is so fortunate as to have been trained in and graduated from a standard dental college, in the A Class, located in the United States of America. Such credentials are a legal passport to professional, social, and financial circles of the most desirable character. But at the same time it must be noted that the diploma from a reputable dental school in the United States is *not* registered, without final examination by European countries or the outlying colonial possessions.

The principal countries in South America observe similar regulations concerning the registration of alien dentists possessing diplomas from the dental schools of foreign countries, including the United States of America, although reciprocal interchange of licenses is legalized between Argentina, Bolivia, Chili, Colombia, Ecuador, Paraguay, and Peru, by treaties for *native* dentists possessing a dental diploma (medical) from one of the South American colleges located in any of the countries named.

South America.—Peru. As an illustration of the system of Licensure prevailing in South America, we will state that by a "special agreement" graduates of medical (dental included) schools of "all South American countries are privileged to practise medicine (and dentistry) in any part of the continent without special permission being required." This is practical reciprocity. The native dental (medical) graduate is more highly favored than the foreign-born practitioner. Unless South American countries can be persuaded to enter into reciprocal relations with the countries in the North American continent by *treaties*, the United States dental graduate must comply with all their *legal* requirements.

Central America: The more stable Central American governments announce dental regulations which are restrictive in their application to foreign credentials, both in regard to the pre-dental or literary qualifications as well as the professional certificates of graduation—the credentials of the motherland receiving prior favor. Consequently, as the Latin races dominate Central as well as South America, ethnics, in addition to Civil Authority, restrict the granting of licenses to practise dentistry to alien dentists, graduates of foreign colleges. Medical Supervision is exercised over dental licensure. Costa Rica, Guatemala, Honduras,

Panama and San Salvador require examinations in Spanish before Medical Boards of Examiners from foreign applicants for a license to practise dentistry in each of those countries. Yucatan and Nicaragua are said to possess similar regulations. The Panama Canal Zone license is granted by the Board of Health under the jurisdiction of the United States Government. British Honduras grants licenses to dentists through the British Medical Council or Medical Board.

Insular Commonwealths: Among the greater Insular Commonwealths such as Australia, New Zealand, Tasmania, Ceylon, New Foundland, Jamaica, and even the Bahama Islands (British), rigid local colonial laws are enforced in the registration of dental credentials. Similar application of the dental law of France, with appropriate modifications, is made in the French Colonies, particularly in her Insular settlements, among which might be named Madagascar and Haiti. In the Netherland colonies, the Dutch East Indies, Borneo, Celebes, Sumatra, Java, the islands of West Indies, and all quarters of the globe, strict Netherlands dental regulations are enforced. Portugal requires foreign practitioners to pass the State examinations before they can practise. Cuba and certain of the larger West Indies Islands which are largely Spanish, although they contain an intermixture of British, French, Dutch and Danish dental regulations, which are maintained in each of the colonies according to their respective nationalities—extending even to Greenland and Iceland under Danish rule, where the "Loeknaskoli" (School of Physicians) located in Reyhjavik, Iceland, control the practice of dentistry.

Yezo, Nippon, Kyushi, Shikoku, Formosa and all parts of the Japanese Empire come under the regulations of the Japanese Dental Laws.

In such islands as Cyprus, Crete, New Caledonia, Malta, Grenada, Prince Edward Island, Falkland, Papua and numerous widely-scattered groups containing English and other settlements of Europeans, little difficulty would be experienced in registering dental diplomas from standard institutions, especially if they include British credentials, which are essential in the Fiji Islands, Hongkong, the Leeward Islands, Mauretius and St. Helena, Seychelles Islands, Windward Islands, and others too numerous to mention here. As the world is mapped out to-day politically, British dental credentials would command a preference over those of any other nationality, the United States included.

It should always be remembered that in writing of alien dentists and foreign-born practitioners as well as International Dental Credentials (such as Diplomas, Certificates, Licenses, Attestations, Vises, Endorsements, Affidavits, Passports and other official documents) the American

dentist and his credentials is a term referred to relatively as alien or foreign, according to whether he becomes an applicant for a license to practise dentistry in a country other than his own, or not.

UNLICENSED ALIEN DENTISTS

The Unlicensed Alien Dentists may be divided into four classes: (a) In a few instances an alien dentist, thoroughly qualified, has been permitted to practise dentistry in a foreign city in the colony speaking his own language, such as an American in Paris, or Rome, Berlin, Vienna, Dresden, or Petrograd, or some other city in the Orient, Africa, or some Island of the Seas. However, the number who pursue their vocation under these circumstances is limited, while the majority of them possess international reputations. It might also be added that the time is passing for making this kind of venture abroad, pending the establishment of a new order of things under the Reconstruction Era.

(b) The graduate who becomes the assistant dentist to a native licensed practitioner, on contract, with a view to complying ultimately with the license regulations enforced therein, and entering into partnership with his former employer, or succeeding his employer in the practice, upon specific and pre-arranged terms.

(c) The graduate dentist who enters into an agreement with a foreign dental depot or firm to perform specific work for a certain length of time, upon a fixed salary on commission basis or both salary and commission. This may or may not include the general practise of dentistry.

(d) The independent unlicensed foreign-born graduate, or non-graduate, who takes a chance, and goes into practice for himself in the most promising location. Isolated cases are cited where such practitioners have flourished, for a time at least; but we also know of instances where the unlicensed dentist has been compelled to relinquish a lucrative practice and make a hasty exit with financial loss. It should also be considered that the one who has achieved signal success is freely quoted, whereas the larger proportion, who fail, are unheralded.

We have met with dentists from abroad who have received their pre-dental and initial dental training in their native country (usually in European schools), though some have graduated in Japan and elsewhere. Then they have come to the United States and graduated, after due course of instruction, from the dental department of a State University, lastly taking a course in Edinburgh, Scotland, or a London University, occasionally elsewhere. The L. D. S. Certificate is registrable in all parts of the British Empire and its Colonial Possessions, while the

Medical Degree is desirable in all parts of the world, on account of the administration of anesthetics as well as for other reasons. The temptation to acquire the conjoint diploma of L. B. C. P. and M. R. C. S. and thereby enhance the value of their credentials, is irresistible to some dentists of a studious disposition. Such training is of incalculable value in scientific and original research as well as expert legal work; to say nothing of its gaining the entree into the most fascinating and profitable clientele. These men have been highly developed and are fitted to fill any responsible position in the practice of dentistry in any quarter of the globe, by reason of their exceptional nature and acquired qualifications. Such a training bestows a literary degree, two dental degrees, and a medical degree. It presages a brilliant career for the man who has made a judicious use of his time and talents, and who *possesses* the *knack* of *putting them* into *practical use*. In America he will receive the clinical education, acquire the technique, and become a *real* dentist, while abroad he will be enabled to master the theory and absorb a broad culture which is so helpful to any professional man and makes him a *master-mind* in his chosen vocation, among the wealthy, influential, or cultivated classes of Society.

The French system of dental training, credentials and licensure commend themselves peculiarly to the Latin races, and possess merits which might be more universally adopted with advantage by other nations. The English methods produce broadly educated professional men, where its graded exactions are adequately complied with. The Deutsche standards of professional credentials have suffered an eclipse, for obvious reasons. The Japanese mode is ideal for the Orient and is commanding increasing respect in the Occident. The American system has outstripped them all in producing men of practical efficiency, technique, operative and prosthetic ability. Each system confers appropriate credentials in accordance with the established laws of their respective countries, and the dentist should acquire such as are acceptable in the country of his choice, for pursuing the practice of dentistry.

It is a fact not universally appreciated that International Credentials enforced through the legal license regulations are the agencies which keep the educational systems of a nation tuned up to concert pitch in the song entitled "*Dental Efficiency*," while reciprocity puts the soft pedal on the clamor against duplication of examinations, complexities of the law, and the multiplication of useless obstructions to practice. The useless obstructions are swept away by the inexorable *relation* of *supply* and *demand*, and vice-versa, while the reaction is inevitable when the enforcement of the law becomes tyrannical. This reaction assumes many phases, not the least fruitful of which is the advent of the dental advertiser

and so-called dental parlor; the credentials of such, whether of an international, national, state, or local character, will require microscopic inspection.

In this connection it should be remembered that the talent for manufacturing phantom credentials (we use the word "phantom" as a result of our own experience, as these credentials have a habit of mysteriously disappearing when most needed for close scrutiny), is not limited to American genius alone, but other nationalities are adepts in the same art. We make this brief allusion to existing abuses in making application for a license to practise dentistry, because they *justify* the most punctilious regard for all the details which should be observed in making out International Credentials.

DENTAL LAWS OF THE UNION OF SOUTH AFRICA

The requirements to be met by foreign dentists in order to practise in the Transvaal and the Orange Free State are found in (1) Ordinance No. 29, of 1904, of the Transvaal, and (2) Act No. 5, of 1909, amending the above Ordinance.

From these it is learned that under the former it is provided that no registration certificate shall be granted to any applicant to practise as a dentist by virtue of degree, diploma or certificate of a foreign University or Medical School unless

(1) The degree or diploma entitled the holder to practise as a dentist in the country or state in which it was granted.
(2) By the laws of the country in which such degree or diploma was conferred, British subjects legally qualified to practise as dentists in Great Britain and Ireland, are afforded privileges equivalent to those granted by registration under this Ordinance.
(3) The curriculum and standard of proficiency of examination required for such degree, diploma or certificate are not lower than those prescribed by the General Council of Medical Education of the United Kingdom.

Act No. 5, of 1909, applies to South African students being British subjects who proceed abroad for their studies; it is provided that certain foreign degrees and qualifications may be recognized even though clause 2, above, has not been fulfilled.

THE UNION OF SOUTH AFRICA

The law in the Provinces of the Union of South Africa affecting the registration of dentists has not yet been rendered uniform, but is controlled by the laws in force in each Province prior to the formation of the Union. No provision is made for the examination of applicants, although all the Provinces require registration prior to practise, each province maintaining a Medical Council which passes on the qualifications of persons desiring registration as dentists.

The following is a brief synopsis of the laws now in force in the separate Provinces of the Union of South Africa:

Cape Province: Application for a license to practise should be made to the Colonial Medical Council, Cape Town, accompanied by a remittance of £2 10s 0d ($12.17). No examination is given, but applicants must possess qualifications which would entitle them to admission to practise in the United Kingdom, and evidence of their qualifications should also be submitted, together with declarations executed before a Justice of the Peace, in the Union, showing (a) personal identity, (b) the authenticity of the diplomas or certificates, (c) the fact that they are entitled to practise as qualified dentists in the countries where the certificates or diplomas were granted, and that they have never been debarred from practice in any country by reason of any demeanor or professional misconduct, (d) that to the best of their knowledge and belief no charges are pending against them in any country at present.

All dental diplomas registrable are required to cover a minimum curriculum of four years, and in all cases a satisfactory preliminary education must have been required.

No diploma granted by the Government or any University or other body of a foreign country shall entitle the holder thereof to registration unless equal rights and advantages are given in such country to the holder of any British registrable degree. Temporary licenses to practise are not granted.

Orange Free State: Application for registration should be made to the Registrar, Medical and Pharmacy Council of the Orange Free State, Bloemfontein, Orange Free State, accompanied by the original diplomas or certificates and a fee of £7 10s 0d ($36.50). Declarations sworn before a Justice of the Peace should also be submitted as to (a) personal identity; (b) the authenticity of the diplomas or certificates presented; (c) the fact that applicant is entitled to practise as a qualified dentist in the country where the said diplomas or certificates were granted, and (d) that they

have never been debarred from practise in any country by reason of misdemeanor or professional misconduct. Applicants must also possess qualifications which would entitle them to registration in the United Kingdom. If for any reason the Medical and Pharmacy Board refuses to grant registration, an appeal may be taken by the applicant to the High Court who has authority to reverse the ruling of the Board.

Transvaal. Applications for licenses should be submitted to the Transvaal Medical Council, Johannesburg, South Africa, together with a fee of £10 ($48.67). No examinations are given. Applicants must possess qualifications which entitle them to admission to practise in the United Kingdom, and a licensee from another country may be admitted to registration provided reciprocity exists between such country and Great Britain. An exception is made in the case of South African students (being British subjects) who may obtain registration even though reciprocity does not exist between the country, whose qualifications they hold, and Great Britain. Temporary licenses are not granted.

Natal: The admission to practise dentistry in Natal is under the control of the Natal Medical Council, Pietermaritzburg, Natal, to whom application should be made. The only method of obtaining registration in this Province is to produce to the Council satisfactory evidence that the applicant is entitled to registration in Great Britain. To make further provision for the registration of medical practitioners and dentists, Act No. 21, of 1919, was passed by the Union of South Africa, and will become operative in all of the provinces on a date to be designated by the Governor-General. The Act is as follows:

Be it enacted by the King's Most Excellent Majesty, the Senate and the House of Assembly of the Union of South Africa, as follows:

1. Notwithstanding anything to the contrary in any law in force in any province governing the registration of medical practitioners and dentists, a registration certificate may be granted to any British subject who (a) having been born in any part of South Africa included in the Union; or (b) being domiciled in the Union when he commences his professional studies and having remained during the prosecution thereof so domiciled; has obtained a medical degree, diploma or certificate or (as the case may be) a dental degree, diploma or certificate, after examination by any university or State examining board.

Provided that (a) the curriculum and standard of examination required for such degree, diploma or certificate are not below those prescribed as professional qualifications for registration as a medical practitioner or dentist (as the case may be) under the law of the province in

which application is made for the registration certificate; and (b) such degree, diploma or certificate entitles him as far as professional qualifications are concerned to practise as a medical practitioner or dentist (as the case may be) in the country in which that university or State Examining Board is situated.

2. Notwithstanding any provision of any law governing the registration of medical practitioners or dentists in any province, a Registration certificate entitling the holder to practise as a medical practitioner or dentist, as the case may be, in that province may be granted to any person who produces proof that at the commencement of this Act he was so registered in another Province.

3. A registration certificate granted under section 1 or 2 of this Act shall entitle the holder thereof to practise as a medical practitioner or dentist, as the case may be, in the province in respect of which it is granted, and save as is specially provided in sections 1 and 2 of this Act the law in force in that province governing the registration of medical practitioners and dentists shall apply.

4. This Act may be cited for all purposes as the Medical practitioners and Dentists Registration Amendment Act, 1919, shall be read as one with the laws governing the registration of medical practitioners and dentists now in force in the several provinces, and shall commence and come into operation on a date to be notified by the Governor-General by proclamation in the Gazette.

PRACTICAL HINTS

This department is in charge of Dr. V. C. Smedley, 604 California Bldg., Denver, Colo. To avoid unnecessary delay, Hints, Questions, and Answers should be sent direct to him.

THE NEED OF OCCLUSAL RESTS.—In all forms of removable bridge work or partial dentures, where clasps are used, however, some form of occlusal rest is necessary as a means of providing against subsequent settlement of the case. If this precaution is not observed, complete loss of occlusion and usefulness will soon follow.—HART J. GOSLEE, D.D.S., in *Practical Hints*.

A VALUABLE USE OF BITTER ORANGE OIL.—Get a small bottle of Oil of Bitter Orange and occasionally place three drops in the tubing of your gas outfit or on the gauge of your Somnoforme inhaler. It positively removes all objectionable odor, and leaves a very pleasant odor. A few drops, 3 or 4, on an ether mask and the patient scarcely can smell the ether. It is the best thing yet brought out for this purpose.—H. B. CLARK, D.D.S., in *Practical Hints*.

BOIL YOUR INSTRUMENTS.—Many dentists do not boil instruments and especially forceps, because they do not like to wait for them to cool before handling. It was suggested to me by a surgeon that for our work it was permissible to cool instruments in tapwater, or under the faucet, after boiling, and this seems to me to be reasonable. I offer it in hopes that some one who neglects to boil his instruments (the only recognized safe way of protection for patients) may be induced to do so.—HENRY B. CLARK, in *Practical Hints*.

SEPARATING FLUID.—The following is what I believe to be a separating fluid which will be greatly appreciated by dentists and dental laboratories alike. Take about one-quarter pound dry shellac, adding to it an equal amount of borax. To this add about 100 c. c. of water and allow to boil for fully ten minutes. When this mixture is cool, all one has to do is to dip the impression into it and it is ready to be poured. I have found

the impression will separate with the greatest facility.—J. JULIAN FISCHMAN.

A SIMPLE, IMMEDIATE, DEFINITE DIAGNOSIS OF A DEAD TOOTH.—Place a little formaldehyde on a piece of cotton in the tooth. If the tooth is alive your patient will let you know in a very few minutes. If alive, it can be washed out and the pain controlled with phenol. If dead, it should stay in place as a first treatment. I have used this method for years, and find it much more quick and simple than the electric methods. —J. HOD WILLIAMS.

Editor of Practical Hints:

Please tell me what can be mixed (or melted) to blend with wax to take away the brittleness, and make it soft and pliable.—ROBERT A. SIMMONS.

ANSWER.—Vaseline; heat the wax smoking hot to insure thorough incorporation.—V. C. S.

Editor Practical Hints:

In the November DENTAL DIGEST you describe a method how to make a bridge from cuspid to cuspid using dentsply crowns. At the conclusion you state that a similar removable bridge can be made by using Roach mesio-distal grip clasps. Will you kindly inform me through the DENTAL DIGEST, how to make a mesio distal grip clasp for a cuspid or incisor tooth?—J. H. MASSELL.

ANSWER.—To make a mesio-distal grip clasp for an anterior tooth: Grind the mesial and distal enamel contour sufficiently to parallel the sides of the tooth at least two thirds of the distance from incisal to gingival and opening up the contact with approximating tooth about the thickness of ordinary blotting paper. Care must be taken not to grind through the enamel, and all ground surfaces and angles must be carefully rounded and polished. Now take a sectional modeling compound impression of the individual tooth or teeth to be clasped. First get accurate impression of lingual and approximal surfaces with a suitable sized and shaped piece of Kerr's compound chilled and softened just on surface, giving soft compound for taking impression backed up with a hard mass to confine the soft and force it to place. Trim excess off labial surfaces, test this section of impression to see that it draws alright, cut V shaped groove in face of compound extending beyond incisal, place back in place, vaseline labial surfaces of compound and take labial portion of impression similar to lingual, making sure that lingual portion is

held firmly in place the while. Pour impression with two-thirds Taggart's investment and one-third plaster. When hard soften compound and remove. Mark clasp outline with indelible pencil. This should cover practically the entire lingual surface of the tooth and come labially on both mesial and distal sufficiently to grasp the tooth securely. Flow melted inlay wax upon the cast to correct outline and contour, place spru, trim excess of cast away, invest in inlay investment and cast.—V. C. S.

Editor Practical Hints:

The experience of C. E. Bartholf, Elroy, Wis., as related in the October DENTAL DIGEST, should be a warning to the whole profession. Aluminum should, in my opinion, never be used in the mouth, nor even as cooking utensils. I have always claimed it to be poisonous, but not being enough of a chemist to be able to analyze its action, I could not prove my claim.

The following experience, however, is to me proof enough that I was right. Not long ago a friend of mine, a graduate chemist and pharmacist from leading colleges of Europe, told me this: His father, then manager of a large factory in one of the European countries, drank a pint of milk daily, which was carried to his office in a container made of aluminum. In time he developed serious stomach trouble, and his son, my friend, immediately thought of the aluminum dish. He analyzed the milk and found that it absorbed a substance from the aluminum which he was sure caused the complications. This proved true, for the aluminum dish was abandoned and his father's health improved rapidly.

If lactic acid does so much harm, through its action on aluminum, how much more injurious must the metal be where far more powerful acids are left to act on it.

Surely, aluminum plates as well as dishes "sell" very well, due to the big boost the metal has received since its discovery, but no fair-minded man will let his conscience allow him for the sake of a few paltry dollars to cause injury to his fellow men.

I feel certain that C. F. B. will relieve his patient of her troubles with either a rubber or gold plate.—H. M. K.

WORK FOR THE CENSUS MAN

Microbes of disease are long-lived, when kept in a suitable environment. Dr. J. Danysz reports to the French Academie des Sciences that a strain of paratyphoid bacilli kept in broth in sealed ampules were alive and virulent after twelve years.

When these bacilli were transferred to a new test tube every twenty-four hours they were still virulent after five years. At the beginning they produced nine generations in twenty-four hours, after a year they were producing nine generations in twelve hours. Thus at the end of five years Dr. Danysz had 25,000 generations of paratyphoid germs.

EXTRACTIONS

A good head has a hundred hands.

Whatever is perfect is in a museum.

Beware of the man who rises to power from one suspender.

Most men expect their wives to be religious for the whole family.

Get your happiness out of your work or you will never know happiness.

All books are either dreams, or swords,
You can cut or you can drug with words.

(Teacher)—What is a smile?
(Pupil)—The widest line between two ears.

A wise guy says: "Never give a woman the key to your heart; there's more fun letting her pick the lock."

Did you ever console yourself with the thought that some people look happy because ignorance is bliss?

The life of a fireman is rapidly losing charm. Soon there will be no more brewery fires to look forward to.

A noisy disturbance was caused at the box office by a man with only one eye, who wanted to go in for half price.

An optimist looks at an oyster and expects a pearl. A pessimist looks at an oyster and expects ptomaine poisoning.

A fellow from Detroit wants to know the scientific name for snoring.
"Sheet music," my friend.

February being a "short" month, it may interest you to know that it had five Sundays in 1824, 1852, 1880, and will have five Sundays in 1920, 1948 and 1976.

"Why did Binks's widow feel so indignant at his funeral?"
"The members of his volunteer hose company sent him a floral fire-extinguisher."

"I wouldn't have my boy taught grammar at all, if I had my way."
"That's a strange idea. Why not?"
"I intend that he shall be a writer of popular songs."

"Pardon me," said the photographer, "but I think your smile is unnecessarily broad. It will show all your teeth."
"Those teeth cost me twenty pounds," growled the sitter. "I want 'em to show."

"So your father went to the war after all, Freddie?"
"Yes, sir."
"The war must have been nearly over by the time he reached France."
"Well he got there just in time to stop it."

Lawyer—Why do you wish a divorce from your husband?
Client—He is so careless about his personal appearance that I can't stand to live with him any longer.
Lawyer—What does he do?
Client—It's what he doesn't do; he doesn't take the trouble to remove the hairs left on his coat by other women.

Man's wife wants little here below,
A poet sang with fire.
There's only one comment to make—
That poet is a liar.

She wants a great deal, yes, indeed,
And yet, ah, vain regrets;
We're telling you of what she wants,
And not of what she gets.

His fellow clerks gathered round him when the news became public property, and extended congratulations.
"But," said one man, "I understand the girl you are engaged to is a twin; how do you tell the difference between her and her sister?"
"Well, it's a jolly nice family," said the lucky man, "and I don't bother very much."

A doctor said to his wife: "You see, dear, I have pulled the patient through after all; a very critical case, I can tell you."
"Yes, dear hubby," was the answer; "but then you are so clever in your profession. Ah, if I had only known you five years earlier! I feel certain my first husband—my poor Robert—would have been saved."

DENTAL ECONOMICS

OFFICE ARRANGEMENT

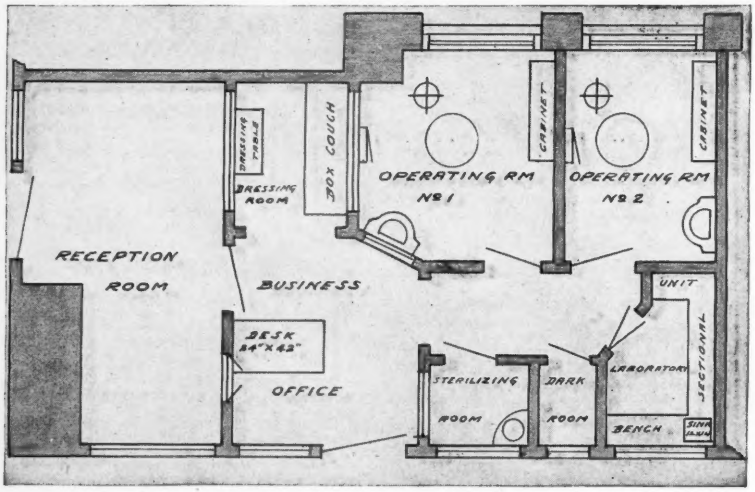
By Harry J. Bosworth, Chicago, Ill.

The key-note of the success of any business is "Service." And you get out of it just what you put into it, but it never pays to run up a blind alley when you may choose an open road.

Economy of time and space, making for efficiency, is the open road that the thoughtful dentist will follow.

Rent is a factor that we greet nowadays with due respect. Therefore, it behooves you to get the most good out of the least space.

For one dentist and one or two dental assistants, I recommend a two-chair office, a good arrangement being the following plan:



Dr. A. P. Grunn's Office, Chicago

It is built in 350 square feet of space and at the usual price per square foot. In the best buildings, rent would be about seventy ($70) dollars a month. On a ten-year lease, the management agreed to pay for this

arrangement, including decorating. There are over two hundred of such offices in one building in Chicago. Present a definite plan of what you want to the building management before partitions or floors are put in, and your suite will be constructed as you wish.

In this type of office, the reception room is far enough away so that no patient is seen until you are ready for him. Your conversation with the patient in the chair cannot be heard by any one else.

In the handling of nerve blocking, taking impressions, surgical and emergency work, the second room is indispensable; it does not mean more work, but makes things easier for you.

The private exit permits entrance and exit by you and your assistant and the dismissing of a patient, if desired, unknown to those in the reception room.

Another thing—you expect to "reap what you sow," don't you? But you can't do the reaping until the sowing has been attended to. And unless you take care of all the factors which tend to influence the little God of Success, you won't find him looking for a soft place to sleep on your door-step, no matter how many "Welcome" mats you may have waiting.

The "Sowing" of a dentist's practice is his "stage-arrangement." You wouldn't expect Mantell to play "Hamlet" in a pea-green smoking-jacket or a purple evening suit, would you? Gown yourself and your assistant correctly, so the patient will realize that he hasn't strayed into some other office by mistake. Especially is this "atmosphere" requisite when dealing with women. If you look like a dentist, they will instinctively trust you; but if you look like "just anybody else, you know, my dear," they will take you with the well-known grain of salt.

And the way to obtain a properly-equipped office is to place yourself and your habitat in the hands of some one whose life work is studying business conditions in the dental profession and—above all—the psychology of these human beings' likes and dislikes.

Look around you. See what a properly-equipped two-chair office has done for Dr. So-and-So, four doors to the left down the hall.

And then go and do likewise.

A FINANCIAL CREED FOR 1920

I believe in the United States of America.

My opportunity and hope depend upon her future.

I believe that her stability and progress rest upon the industry and thrift of her people.

Therefore, I will work hard and live simply.

I will spend less than I earn.

I will use my earnings with care.

I will save consistently.

I will invest thoughtfully.

To increase the financial strength of my country and myself I will buy Government securities.

I will hold above barter the obligations my country thus incurs.

I will do these things to insure the greatness of America's future.

In every part of the United States there are groups of men, women and children who intend to adhere strictly to the above financial creed during the next twelve months. As members of Government Savings Association in offices, stores, industrial plants, labor, fraternal and social organizations, and in churches, clubs and homes, these patriotic believers in the principles of true Americanism are investing regularly some part of their earnings in the new issue of Government Savings Stamps, thus giving substantial proof of their determination to help their country. The securities are on sale at Post Offices of the first and second class, as well as the leading banks and trust companies in all parts of the federal reserve districts into which the United States is divided.

REGULATION PROPOSED FOR WOOD ALCOHOL

State authorities, when fatalities occur, may prosecute for manslaughter and murder, persons charged with selling wood alcohol for beverage purposes. However, additional legislation to safeguard the use of the poison will be recommended to Congress by the commissioner of internal revenue. The character of the proposed legislation has not yet been defined, but it is probable that it will be to place a tax on the manufacture and sale of wood alcohol, subjecting it to the restrictions which govern the manufacture and sale for non-beverage purposes of ethyl alcohol, and requiring the holding of permits by those engaged in the traffic. There is no provision in the internal revenue laws or in the National Prohibition Act regulating or affecting the manufacture, sale or distribution of wood alcohol, and the commissioner has no authority under present laws to regulate or restrict its use.—*Journal A. M. A.*

DIETETICS AND HEALTH

SWEETNESS THAT'S INJURIOUS

A new temple has been dedicated to the goddess Saccharine. Into the court of the temple, out of which marches a never-ending parade of riches for Mr. Bottler, it is proposed to fling all the kiddies of America so that they may drink to the never-ending delight of their little interiors, and the never failing joy of their big round eyes—all the "pop" they can swallow.

To the shame of America there are two kinds of soft drinks on sale, the expensive kind free from adulterants, decorated with self-respecting labels and widely advertised for the edification of grown-up folks who can read. Then there's the other kind intended for kiddies who can't read, but whose unsuspecting daddies give them foolish nickels to spend, and whose guileless mothers permit them to be decoyed by the brilliant and gaudy concoctions offered for sale at five cents per bottle.

In the decent soft drinks bottled for adult trade, *ribbon dyes* are not used. Real flavors, extracted from roots and fruits and barks and berries are employed. Pasteurization or sterilization prevents the fermenting and souring that would otherwise spoil the drink. Chemical preservatives are taboo. For sweetening purposes real sugar is used, and in some of the plants where soft drinks are made according to the formulas of decency, zealous efforts are made to apply all the laws of sanitation. They don't imitate suds, "foam," through the use of soap bark, a sure poison.

At this point decency ends, as if the kiddies of the nation constituted a by product. The kiddies have no defense against their exploiters. The soda water compounded for the purpose of enticing their nickels is not advertised. Its manufacturers are compelled to make it conform to the size of the five-cent piece, not to any standard of decency fixed by law.

Obviously it can't contain pure flavors. Ethers, aldehydes and chemical substitutes are used instead.

Obviously it can't contain natural colors. Hence the coal-tar route leads direct from the gas house to the pop bottle.

Obviously the five-cent drink wouldn't make its manufacturer rich if he had to sweeten it with sugar. Hence the goddess Saccharine is invoked to contribute her harsh metallic sweetness in the form of a coal-tar sweetener so sickishly cloying that the fakers who employ it are able to boast that one pound of the stuff goes as far as two barrels of sugar, not as a food, mind you, but as a chemical substitute for sweetness.

Children don't read advertisements and obviously it isn't necessary that they should consume soft drinks as pure as those made for their elders.

Surely the morals of America must be bankrupt if the parents of children are no longer capable of perceiving the distinction made between themselves and their children with respect to the kind of soft drinks that are now legalized where the little ones are concerned, and held in such lofty contempt by their elders that to serve them at any fourflushing table in the land would be to insult the guests whose feet are under it even though their heads are in the air, where so many heads now seem to be.

One's gorge rises in the presence of the goddess Saccharine. The vagaries of man on this planet have resulted in a number of strange gods and goddesses in whose worship the most devilish and degenerate rites have been practised.

Astarte had nothing on Saccharine in so far as the essence of indecency is involved. Saccharine is not a food. It is not a food-adjunct. It is found in no food that animals will consume. It is a fake, a fraud, a sham, a decoy, a pilferer of nickels, an exploiter of children, a miserable chemical substitute for sweetness, a subject for academic debate in Municipal Courts.—ALFRED W. MCCANN in New York *Globe*.

THE CHOIR INVISIBLE

The beauty of life is Harmony.

We have more to do than to "live our own life." The best part of that life is what we get and give with others.

Life's overtones come from other people, and the overtones are the sweetest.

I am so intimately bound up with others, says Dr. Frank Crane, that, were I to be suddenly left solitary, with no human being in reach, I should be as one stripped naked in the wind. Solitary confinement is the most dreaded torture in prisons.

When I eat my breakfast I am partner to a thousand hands. Hewers of trees, haulers of lumber, planing mill operators and joiners collaborated to make my table. Weavers, spinners, and merchants made the napery. Coal diggers, iron miners, railway men, steel mill operatives, factory employees, clerks, and delivery boys brought to me my knife and fork. From laborers in far Brazil or Java came my coffee. Dairymen furnished my milk and cream and butter. Laborers in wheat fields, grist mills, and bakeshops supplied my bread.

The highest music is not the single violin of the virtuoso, but the orchestra. A distinguished musician said that the best thing about a violin was forty of them. No solo singer can reach that grandeur of effect that a chorus can attain. We do not read of solos in heaven, but choruses like "the sound of many waters."

Morality is not individual; it is social. Religion is unwholesome until it is humanized. Conscience is septic until it includes my neighbor. Convictions are dangerous until they are capable of some generalization. Ethics is septic until it is universal.

This is my humanity, my kind, my people, my larger, truer, and inalienable self. I cannot live my life unless I live their lives. Let me feel this! Let me sharpen my human nerve! Thus losing myself I shall save it.

So I shall join the choir invisible,
Whose music is the gladness of the world.

THROUGH THE YEAR

Earth has so many ways of being fair;
Its sweet young Spring, its Summer clothed in light,
Its regal Autumn trailing into sight
As Summer wafts her last kiss on the air;
Bold, virile Winter with the wind-blown hair
And the broad beauty of the world in white;
Mysterious dawn, high noon, and pensive night,
And over all God's great worlds watching there.
The voices of the birds at break of day;
The smell of young buds bursting on the trees;
The soft suggested promises of bliss,
Uttered by every subtle voice of May;
And the strange wonder of the mighty sea,
Lifting its cheek to take the full moon's kiss.—*Exchange.*

THE BEST OF CURRENT THOUGHT

THE PRESENT STATUS OF TEETH WITHOUT VITAL PULPS*

By L. Ashley Faught, D.D.S., Philadelphia

Prof. Operative Dentistry, Philadelphia Dental College

The great war is said to be over—and even now everybody is remarking that things are not the same as they were before the beginning of it. As one notable example, Dentistry has been moved into the limelight. Large demands have been made upon her, and largely has she answered to these demands. The M.D. has recognized the D.D.S., and under war conditions the two have clasped hands and worked side by side for the great cause of humanity. For the first time in history the hospital cots had the names of the medical and of the dental attendants in charge of the cases posted side by side at their heads. Early recognition was attained that sound teeth were a factor of health; and of the converse, that diseased teeth produced and aggravated pathologic processes. No apology is therefore needed for the somewhat trite title of my paper, since the medical profession as a body is just commencing to realize the immense influence of such teeth in the production of systemic morbid conditions.

Among dentists the idea heretofore was that their preservation was considered advisable, more with the view of preserving the patient's teeth and adding to the personal comfort and appearance, than with any thought of thereby curing any very serious maladies.

There have ever been periods in dental history in which dentists turned thought and consideration to some one subject more pronouncedly than to others, and it may be well for us to consider with some care a topic which is at the present moment first in the minds of most practitioners of the day—the far-reaching effects of focal infections and the possible relation of teeth without vital pulps to systemic disorders.

The dental profession has for many years been insisting that the teeth were a very important portion of human anatomy, but this insistence

*Read before the Eastern Dental Society, Philadelphia.

for the most part fell upon unheeding ears so far as the medical profession was concerned. But now all things have changed, and it is at present the medical profession, with its long experience in surgical matters, that is reasoning by analogy. Pus from diseased bone has long been known by them to be the worst and most virulent type of pus. Pus, therefore, from and in connection with diseased teeth may be expected to possess the same undesirable characteristics. Teeth are not bones, but their roots have a distinctly bony covering, and the septic effects from absorption of toxins produce toxic neuritis, gout, chronic rheumatic arthritis, and a long list of other ailments in which even the heart is found to be included. The situation becomes truly alarming, and the status of teeth without vital pulps thrusts itself with insistence upon the dental profession, asking, "How far, now, is their preservation to be considered advisable or even permissible?"

Prof. J. Foster Flagg, even in his day, pointed out that nine in every ten "well-treated" teeth gave trouble in less than twenty years, this as a result most largely due to the length of time during which the alveolar dental tissue had been doing double duty as a nourisher of tissue in contact with dead tissue—it being noted that just in proportion as the effort to maintain integrity of dead dentin is perfect, so tolerance of such teeth is permitted for an indefinite and long period of time. The thought intrudes itself parenthetically that perhaps even to-day not more than five per cent. of all such teeth can be classed as "well treated." The trouble with such teeth, when it comes, is not with pulpless teeth, but from "pulpless" teeth still containing a sufficient quantity of very objectionable pulp.

Dentists have rung every change in the gamut, and technical skill has become most essential and far more general than formerly. The X-ray has come as a decided help and also as the avenging angel. Pathologists are by its showing disturbing the serenity of mind in which we have formerly rested, even when expert work is accomplished and—according to all previous reliable standards of judgment—"all is well."

The clinical history of the patient suffering from some one of the aforesaid legion of systemic troubles, coupled with that outline given above of the analogous conception on the part of the authoritative members of the healing art, together with the knowledge that bacterial disturbances are the cause of most modern diseases, points to an exhaustive examination for some positive focus of infection. Rare, indeed, after the thirty-fifth year of life is the mouth in which the physician will fail to find one or more of these teeth without vital pulps, and which, to say the least, may quite properly be looked upon with suspicion. Apparently normal, but under the all-seeing eye of the X-ray the physician condemns them

to the forceps. As I have pointed out by my quoted statement of Professor Flagg, serviceable they may be from a purely dental standpoint, but normal—even when "well treated"—never. Is there not, therefore, often great justification for the decided status given to them by our medical friends? Our own Professor Garretson stated, "A diseased tooth may express itself in almost any part of the body."

For our study to-night a diseased tooth may mean one without a vital pulp, as the converse of Professor Garretson's statement is being more and more insisted upon by the medical profession, that disease in any part of the body may find its origin in the existence of these teeth. I wish you also to note that while we all recognize "oral sepsis" as a "cause of septic gastritis, toxic neuritis, and other septic conditions," we are not in any way including this phase in our study, but concentrating our thought absolutely upon a diseased tooth as meaning one without vital pulp, and I use this phrase because it cannot be properly named in any other way. As has been pointed out in our opening consideration, if the term "pulpless" tooth indicated correctly the existing condition, then there would not be any justification for physicians giving the status to these teeth which they are now so largely doing, nor any reason for the writing of this paper; the old status would do. I am brought, however, to see that the old status will not do. Physicians have at last come to see a light, and it is not for the dentist to now dispute facts which he has so long known and so long tried to have the family physician know and act upon. Developing knowledge of bacteriology has turned the tables. The dentist is not seeking the aid of the medical man to back up dentistry in its claims to importance before the public. The medical man now is at one with the dentist—fully recognizes the importance of these claims, and is daily advising his patients to accept and act upon them. Let the dentist not be puffed up in foolish pride, but readjust his bearings and be, also, at one with the physician.

In these days of conservatism and high professional dental skill, is it not quite possible that we go beyond the true mark?

In the long years of development to attain this high pitch, have not our minds and the minds of our patients accepted as truth and fact what at first was and still very well may be only ideal?—the indefinite preservation of every tooth. Not for one moment am I advocating the swing of the pendulum to the opposite extreme—not even anywhere near it—but it should be recognized:

That the usual period of service of these teeth, "well treated," is not over twenty years.

That even such long service is dependent upon the vital force of the patient.

That such teeth are never normal organs.

That nature always stands ready to sacrifice the comparatively unimportant part for the general welfare of the whole economy.

That because dentists feel competent to treat, and therefore to force the issue for the retention of these teeth, is no good reason why it should be done.

In view of all this, the status of teeth without vital pulps is to-day open to serious consideration. While operative dentistry has been advancing by giant strides, so too has prosthetic dentistry moved up to reliant capabilities and to a point of high service to humanity.

The conclusion, therefore, is that when treatment of teeth without vital pulps can be instituted as a *primary* effort, and readily succeeds in placing these teeth in further service, answering perfectly *any* test, it should be done; but that any *secondary* effort, involving patient, extended, and trying effort both to patient and to dentist, is inadmissible. The prompt extraction of teeth and their replacement by prosthetic means is by far the better practice, and the only real safeguard to the present and future health of the patient.

While I am sure that all my *confrères* will say amen to this, I am positive that no dissenting voice will be heard from the medical profession; but that as a unit they will concur with it as a statement of a perfectly sane, safe, and sound procedure. Any other attitude of mind obstructs progress, and holds dentistry upon a narrow plane.—*Dental Cosmos.*

FUTURE EVENTS

The Texas State Dental Society will hold its 40th annual convention March 8-13, 1920, at Dallas, Texas.

The special feature of this meeting will be post-graduate class courses conducted on the "Oklahoma Plan."

These classes will be conducted by the following well-known men:—Dr. Thomas B. Hartzell, Minneapolis, Minn.; Dr. F. Ewing Roach, Chicago, Ill.; Dr. Arthur E. Smith, Chicago, Ill.; Dr. Dayton D. Campbell, Kansas City, Mo.; and Dr. T. W. Maves, Minneapolis, Minn. Other teachers may be employed.

J. G. FIFE, *Secretary*,
736 Wilson Bldg.,
Dallas, Texas.

The Vermont State Dental Society will hold its next annual meeting in Burlington, on Wednesday, Thursday and Friday, March 17, 18, 19, 1920.

PHILIP E. MELLEN, *Secretary*.

The next annual meeting of the Alumni Society of the Dewey School of Orthodontia will be held on April 1, 2, 3, 1920, at the Edgewater Beach Hotel in Chicago.

The usual high standard of the meetings of this Society will be maintained. One half day will be devoted to clinics. All interested in Orthodontia are cordially invited to attend these meetings.

GEORGE F. BURKE, *Secretary*,
741-43 David Whitney Bldg.
Detroit, Michigan.

The next annual meeting of the American Society of Orthodontists will be held at the Edgewater Beach Hotel, Chicago, Ill., Monday, Tuesday and Wednesday, April 5, 6, and 7, 1920. Those interested in Orthodontia are invited to attend.

F. M. CASTO D.D.S., *Secretary*.

The next Annual Meeting of the Kentucky State Dental Association will be held in Louisville, April 7, 8, 9, 1920.

A programme of unusual interest has been planned. Address all correspondence to W. M. Randall, Secy., Louisville, Ky.